

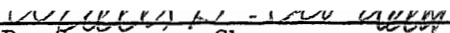
AN INQUIRY INTO TYPES OF ATTRIBUTIONS MADE
ABOUT INCONGRUENT COMMUNICATIONS

by

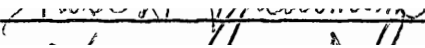
Anna Shouse Broome
B.S.Ed., University of Georgia, 1974

Submitted to the Department of Speech and Drama
and to the Faculty of the Graduate School at the
University of Kansas in partial fulfillment of the
requirements for the degree of Master of Arts.

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Professor in Charge

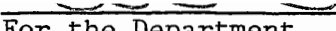
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For the Department

September, 1977

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A.S.B.

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CHAPTER 1

INTRODUCTION

Statement of the Problem

Over the past ten years, the adage "actions speak louder than words" has gained widespread acceptance by students of communication. The popularity of this idea is due largely to Albert Mehrabian's research on nonverbal communication. However, findings of other nonverbal studies and research in person perception indicate that blanket acceptance of this adage is no longer possible.

The present study is an effort to question whether dominance of nonverbal cues over verbal cues is always the rule and to shed light on the way in which subjects make use of the information they obtain from both sets of cues.

The theoretical assumption underlying this study is that verbal and nonverbal cues share the function of conveying a message. Therefore we cannot say that one cue is dominant over the other, but can rather say that each cue is interpreted in light of the other. Also, because of the sharing of this single function, we can regard inconsistencies between message channels in the same manner that we regard inconsistencies between character traits or behaviors of a single stimulus person. Thus we can make use of some of the findings in impression formation literature.

Theoretical Background and Conceptualization

Definition of communication. The view of communication which forms the basis for the present research is that posited by Dean C.

Barnlund. He states that communication is a transaction in which man invents and attributes meanings to realize his purposes. He stresses the fact that meaning is something "invented," "assigned," "given," rather than something received (Barnlund, 1970). Patton and Giffin (1976) have formulated their model of communication on Barnlund's transactional approach. They define communication as the generation and attribution of meaning acknowledging that the generation of a message may be intentional or nonintentional, and that the attribution of meaning is the assignment of significance to events around us. Gerhard J. Hanneman (1975) concurs with Patton and Giffin's definition of communication by stating that all of our behavior has symbolic value for other humans. He holds that the essence of the communication lies in another's attaching meaning to that behavior.

Each of these definitions emphasizes the importance of the sender and the receiver in a communication situation. We also note that these definitions indicate that the attributions that the decoder makes about the encoder and his message involve non-verbal as well as verbal cues.

Definition of nonverbal communication. The present study assumes with McMahan (1977) that nonverbal behaviors are encoded, behavioral cues which must be interpreted and assigned meaning via perceptual and judgmental processes of individual receivers. For the purposes of this study, I will further refine my definition of nonverbal communication by adopting a view advocated by R.P. Harrison and W.W. Crouch (1975). These authors delineate nonverbal communication into four broad divisions, based on the manner in

which the nonverbal code elements are produced. The divisions are: performance codes - body language; artifactual codes - objects; mediatory codes - pictures and media; and spatio-temporal codes - the use of space and time. In the present study, I am concerned specifically with the relationship between the nonverbal performance code (body language) and the simultaneously occurring verbal behavior of an individual.

The relationship between the nonverbal and the verbal modes.

Many theories of communication deal chiefly with verbal encoding of messages, seeing the verbal cues as having the main responsibility for conveying the meaning of a message. These theories relegate nonverbal cues to the secondary functions of supplementing and complementing the verbal behavior (Nolan, 1975). Conversely, Albert Mehrabian (1967) and Michael Argyle (1970) in their writing, have elevated nonverbal cues to dominance over verbal cues--that is, at least in situations in which the communication is incongruent. Michael J. Nolan (1975) however, takes a fresh perspective. He asserts that the widespread practice of postulating verbal and nonverbal communication as having two distinct functions fails to take into account that both channels actually share a single function, that function being the communication of information. Nolan grants that the specific techniques employed by the two modes may differ, but holds that their function is the same. The model of communication proposed by Nolan illustrates the role played by various channels and codes in the production of a message, emphasizing that communication is the result of a variety of behaviors.

Let us now briefly examine a situation from our common experi-

ence for an illustration of this idea of the sharing nature of the relationship between the verbal and nonverbal modes.

Let us suppose that one is a witness to the event of a child being offered an intriguing looking toy by someone who is a stranger to the child. If one could only hear the child's words, one would probably hear the child utter a polite, "no thank you," (as he had trained by his parents not to accept gifts from strangers). If one could only observe the child's face one would probably note an expression of interest in and longing for the toy. In the first case, in which we only heard the child's words, we might assume that the child was totally uninterested in the toy. In contrast, in the second case, in which we only observed the child's face, we might assume that the child was very pleasantly excited by the toy. However, it is only by interpreting each cue in light of the other that we derive the more accurate attribution that the child is experiencing conflict from wanting something, but feeling that it would be wrong to take it.

Another illustration of the sharing relationship between the verbal and nonverbal modes comes from the literature of Albert Mehrabian. Even though Mehrabian (1971) interprets his experimental findings as showing the generalized dominance of nonverbal over verbal cues, some of the illustrations used by him could more accurately be seen as examples of the sharing relationship between the modes.

For instance:

"In welcoming a new employee to his job, the department head says, 'we are all equal here and can openly express our feelings. I want you to let your feelings be known and especially to let me know if you have reservations about anything or feel that something is wrong.' As he speaks, his posture, facial expression, and vocal expres-

sion convey his awareness of his dominant relationship relative to the new member of his department, who comes away from this pep talk with the feeling that the boss is a bit of a phoney, trying to be a nice guy, but doesn't really mean it. In other words, the new man feels that he will be wise not to be critical of anything the boss says or does."

In this example we see that even though the new employee came away from his interview feeling that he should beware of the boss, he did not ignore the boss's verbal cues. Rather he incorporated these cues into his assessment of his boss. I would venture that his perceptions of a boss who had come on in a verbally as well as nonverbally superior manner would have been quite different from his perceptions of his present boss.

The two examples which have been given have served to illustrate the central assertion of this study. That assertion is that neither verbal nor nonverbal cues are necessarily more important or more weighty in our attributions of meaning to others and their messages. Rather it is in light of the context that each type of cue creates for the other that we make our attributions.

Testing the Assertion

In order to test this assertion a situation was set up in which the subject could view a person who was giving either incongruent or congruent verbal and nonverbal message cues about his present emotional state or his present interpersonal attitudes. The verbal and the nonverbal message content acted as a tracer would in a biological experiment, so that by the given content appearing or not appearing in the subjects' attributions, it could be determined from which cue or combination of cues the subjects

derived their judgments.

Summary

It is the central assertion of the present study that verbal and nonverbal cues share the single function of conveying a message. Therefore it is assumed that neither cue dominates the other, rather it is assumed that each cue is interpreted in light of the other.

The explanation of and results of an experiment designed to test this assertion constitute the remainder of this study.

CHAPTER 2

REVIEW OF LITERATURE

A review of the literature relevant to the present study will be presented below. A rationale for the hypotheses of this study will be built through this review.

Assumptions About the Verbal - Nonverbal Relationship

Early interest in incongruent communication. The early impetus for much of the study of incongruence between verbal and nonverbal cues came from psychotherapists. Having as part of their theoretical background Freudian notions of repression, they felt that, since nonverbal cues were largely not subject to conscious control, they could learn a great deal about their client's "true emotional state" by attending to the client's nonverbal cues. The psychotherapists thought that these cues might be betraying either voluntarily or unconsciously suppressed material. Charles Darwin and Erving Goffman, two famously acute people-watchers, also noted the "betrayal factor" in nonverbal communication (Ekman and Friesen, 1969).

In 1949 Theodor Reik published the book, Listening With the Third Ear, in which he discussed the expression of a patient's feeling during a therapy interview. Reik stressed the importance of being aware of the way that a patient expressed himself, stating, "the intimacy of the inner experience is not sayable, but its reflex will communicate itself like a song without words and express emotions that the listener will in turn sense," (Luft, 1951).

Current interest in incongruent communication. Argyle holds that culture restrains the expression of negative attitudes or emotions so that spontaneous expressions are often concealed. He emphasizes, however, that some parts of emotional expression are hard to consciously conceal (Argyle, 1972). This fact has been documented by Haggard and Isaacs, who cite such physical expressions as perspiration, pupil dilation, micromomentary facial expressions and the like (Argyle, 1972).

Egan (1975) in his recent book on counseling, advises the counselor to be aware of the client's nonverbal behavior, as it helps punctuate and color the interaction. Egan states that the nonverbal behavior adds data to the therapist's perception of the client.

The double-bind hypothesis of schizophrenia explicated by Watzlawick, Beavin, and Jackson (1967), has also prompted interest in incongruent communication. However, as the authors carefully point out, contradictory or incongruent communications by themselves, do not necessarily constitute a double-bind, only when the incongruent communication occurs in conjunction with other elements does the true pathology-producing paradox exist.

Summary. Early psychotherapists, having as a background Freudian notions of repression, were among the first researchers and theorists to document incongruent communication. This psychotherapeutic perspective has given rise to research into incongruent communication which holds that the naive observer tends to believe the "uncontrollable" nonverbal cues, and to ignore the "calculated" verbal cues. The problem facing us here is not to determine which cue is a more

accurate portrayal of the encoder, but rather the problem is to determine the manner in which the decoder utilizes the verbal and nonverbal modes to arrive at his attributions. It is perhaps unfortunate that researchers have taken a theory developed for use in psychotherapy and applied it to the attributions made by naive observers.

Research Supporting the Dominance of Nonverbal over Verbal Cues

The Mehrabian studies. In 1967, Albert Mehrabian and Morton Wiener studied the inconsistent communication of attitude in the verbal and nonverbal components of a message. Three degrees of attitude (positive, neutral, and negative) communicated in single-word contents were each combined with three degrees of attitude communicated in tone of voice in a tape recorded message. Subjects were told to imagine the words as having been said by person X to person Y. Pre-judging had established a score for each word and voice tone by itself. Subjects were instructed to attend either to tone of voice only, verbal content only, or tone and content. All subjects were instructed to rate each stimulus on a single -3 to +3 bipolar scale. The scale was a measure of how the subject thought the imaginary person X felt toward the imaginary person Y. On the scale, +3 referred to liking, high evaluation or preference for person Y, while -3 referred to disliking, low evaluation, or lack of preference for person Y. The results obtained from an analysis of variance indicated that overall under "content only" instructions, the effects of content were all significant, under "tone only" instructions effects were significant for one actor and

somewhat weak for the other, while under "tone and content" instructions, the effects of content were not significant, but the effects for tone were significant for one actor, while somewhat weak for the other actor.

In a 1967 study by Mehrabian and Ferris, three degrees of attitude (positive, neutral, and negative) in facial expression were each combined with three degrees of attitude communicated vocally, with the vocal communications of attitude superimposed on a neutral word. Pre-judging established that the degree of positive attitude communicated facially was equivalent to that communicated vocally. The methodology was similar to that of the Mehrabian and Wiener study with the exception that photographs of actresses' faces were used in addition to audio recordings of a neutral word. A measurement identical to that in the previous study was employed. Again, the -3 to +3 scale was used to tap the subjects' perceptions of the degree of liking conveyed by the message. Results showed that there were main effects for facial and vocal components. Since there were no significant interaction effects, Mehrabian viewed the combined effect of the facial and vocal components as a weighted sum of their independent effects. Combining the results of this study with the results of the Mehrabian and Wiener study, Mehrabian derived the following regression equation:

$$\text{Attitude}_{\text{total}} = 0.07 A_{\text{verbal}} + 0.38 A_{\text{vocal}} + 0.55 A_{\text{facial}}$$

This equation, which Mehrabian derived from data in the two previously reported studies, has gained widespread popularity. Although the original two studies dealt only with the communication

of liking or not liking, Mehrabian stated in his 1971 book, Silent Messages, "Generalizing, we can say that a person's nonverbal behavior has more bearing than his words on communicating feelings or attitudes to others. So we have rewritten our equation for any feeling instead of just liking." Thus Mehrabian's equation is generally understood to mean that nonverbal cues dominate over verbal cues across all types of situations. This assertion appears in many communication texts and in popular literature (Egan, 1975; Patton and Giffin, 1976; Brooks and Emmert, 1976; Millar and Millar, 1976; Argyle, 1972; and Psychology Today, 1968).

The Argyle study. Argyle et al. (1970) conducted an experiment in which each of 120 subjects rated 18 videotapes. These videotapes contained verbal and nonverbal cues for Inferior, Equal, and Superior which were varied and combined in a 3 X 3 factorial design. The two actors (each played in 9 tapes) in the videotapes spoke 20-second speeches in which they implied the three above interpersonal attitudes toward the subjects. Subjects rated their impressions of the speaker on ten bipolar scales. Argyle's scales chiefly measured the subjects' impressions of the actors. That is, they measured the impact that the actor had on the subjects themselves. An analysis of variance showed that there were main effects for verbal cues on six of the scales, with main effects for nonverbal cues on all ten of the scales. Also reported were five significant interaction effects between verbal and nonverbal cues. However, the percentage of the variance accounted for by nonverbal cues was much greater than that accounted for by verbal cues. Thus Argyle concluded that his results lent support to Mehrabian's assertion concerning the

general dominance of nonverbal cues.

Summary. From the two Mehrabian studies using single words combined with vocal or facial nonverbal cues, it was concluded that the nonverbal cues dominated subjects' evaluations of the liking or disliking communicated by the message. On the basis of the results, Mehrabian assumed a linear weighted averages model of impression formation derived by Anderson, cited in Lampel and Anderson (1968). The model showed nonverbal cues as carrying an overwhelming amount of the message with verbal cues having only minimal influence.

Argyle's study, as an attempt to extend Mehrabian's findings to a more naturalistic setting, did support Mehrabian's assertion that subjects attended more to nonverbal cues than to verbal ones. However, there was a slight difference in the dependent measures used by Argyle and Mehrabian. Whereas Mehrabian used only a single scale to measure the attitude of liking conveyed by the message, Argyle used ten scales which assessed the impact that the actor's message had on the subjects themselves.

Studies of Incongruent Communication Not Supporting the Generalized Dominance of Nonverbal over Verbal Cues

Studies testing the adequacy of the linear weighted averages model. Bugental, Kaswan, and Love (1970) compared the adequacy of a linear versus an interactive model in accounting for the interpretation of conflicting communication. Acted videotaped messages containing conflicting inputs (friendly or unfriendly) in the verbal and nonverbal channels were shown to subjects. The scripts

were single sentences, such as, "You did a fine job." They were spoken by the videotaped actor as if directly to the subject. Subjects were given a list of eleven adjectives and were told to select the one which best described the behavior that they saw in each scene. They were not specifically told to imagine that the message was being given to them or to an imaginary other. An analysis of variance indicated the presence of significant channel interaction, which appeared to be due to a strong tendency to go with the negative element, regardless of the channel in which it appeared. The authors concluded that a linear model was inadequate in accounting for the integration of conflicting messages.

Lampel and Anderson (1968) had female subjects rate males characterized by a photograph and two personality-trait adjectives in terms of their desirability as a date. An analysis of variance indicated that there was a moderately strong and prevalent tendency toward interaction of the verbal-visual channel. The interaction seemed to be due to a discounting effect in the presence of a less desirable photograph. The authors could draw no clear cut conclusions concerning whether the interaction was or was not congruent with the linear model.

Studies testing subjects' use of verbal and nonverbal modes.

Shapiro (1966) had judges view ten-minute videotaped actual interviews, either with video and audio channels or with just one channel. The taped interactions were comparable to the first ten minutes of a non-stress counseling interview. Judges were instructed to rate the expressed pleasantness or unpleasantness of the videotaped interviewee's feelings on a scale from 1 to 9. Analysis of correla-

tions between channels suggested that both sets of cues were used in the attributions of judges who viewed the complete tape.

In a study by Beier and Stumpf reported by Dean Barnlund (1968), judges were to observe in sequence the voices, the gestures, the facial expression, and finally the interactional behavior of unknown persons. The judges' ratings, taken after each set of cues was revealed, showed that impressions of the strangers shifted as each additional series of cues became available. The interaction of the cues as more and more were revealed, affected the way that the judges saw the person and indicated that they used all cues available to them.

Vande Creek and Watkins (1972) constructed a tape series in which each 20-second tape segment portrayed a conflict in degree of stress between the verbal and nonverbal modes. Subjects rated each segment on a single nine point Calm - Stressed bipolar scale. When ratings were correlated with verbal and nonverbal criteria established by pre-test judges, results indicated that different subjects exhibited a differential preference for verbal or nonverbal cues.

McMahan (1977) contended that subjects would respond differently to a stimulus when instructed to give their impression of the speaker rather than a rating of what the speaker said. She pointed out that the Argyle and Mehrabian studies always asked the subjects to rate their impression of the speaker. McMahan hypothesized that subjects would rely more on nonverbal cues when making person-relevant constructions while relying more on verbal cues in making message-relevant constructions. McMahan's experi-

mental design was very similar to that of the Argyle study, their independent variables being nearly identical. She used several dependent measures: a free-response written impression of the speaker and a reconstruction of the message, two sets of the bipolar ratings scales used by Argyle (one set for attitudes conveyed by the speaker and one for attitudes conveyed by the message), questions bounded by "very much so" and "not at all" designed to measure discrimination of overt statements and speaker intentions. She found support for her hypothesis on subjects' free-form written responses, but not on their ratings of bipolar scales. On the bipolar scales, the expected interaction was not found.

Bentz (1973) employed a design similar to Argyle's with the exception that the videotapes used by Bentz portrayed a man and a woman interacting. The ten bipolar scales which constituted part of Bentz's dependent measures assessed the man's attitudes toward the woman and the subjects' attributions of the man's inner state. Bentz also had subjects write their impression of the man in the videotape. She found that on none of her bipolar scales did nonverbal cues dominate meanings created. She did find, on six scales, significant main effects for both verbal and nonverbal cues plus significant interactions of verbal and nonverbal cues. On two scales she found significant main effects for verbal and nonverbal cues with no interaction effects. She also found that on one scale there was a significant main effect for verbal cues plus a significant Verbal X Nonverbal interaction. Bentz interpreted these findings as an indication that both modes of communication influenced subjects' judgments.

Summary. The dependent measures used in these studies were varied: one study had subjects use a single scale similar to the one used by Mehrabian, one study used bipolar scales identical to those used by Argyle, while a third study used scales somewhat similar to Argyle's. A fourth study had subjects select a single adjective that they thought most descriptive of what they saw. Also, the independent variables used in these studies were very similar to those used by Argyle, though none were similar to those used by Mehrabian. Thus, while both dependent measures similar to those used by Mehrabian and by Argyle and independent variables similar to those used by Argyle were employed in these studies, the results found were quite different from those obtained by Mehrabian or by Argyle.

The results of the studies reported above indicate first, that a weighted averages model may not be adequate to account for subjects' use of verbal and nonverbal cues when making attributions about an incongruent communication. Secondly, these results indicate that there is substantial evidence that subjects do make use of both the verbal and the nonverbal modes when making attributions about a speaker and his message.

Impression Formation Studies

In dealing with incongruent communications, we are dealing with conflicting information stemming from the same message. Thus, the essence of the problem of incongruent communications is very similar to the impression formation problems first studied by Asch in the 1940's and by Gollin in the late 1950's. Therefore, an exam-

ination of these studies can shed light on the present question.

The customary format of the impression formation studies was to present the subjects with contradictory material about a single individual. The subjects' impression of the individual was then measured.

Studies investigating methods of dealing with inconsistency.

Haire and Grunes (1950) reported that when college students were provided with information which contradicted their stereotype of a factory worker, the subjects devised various ways of resolving the inconsistency. Some subjects discounted the information they were given, some denied the stimulus person's status, and others tried to somehow relate the inconsistent parts to each other.

Eugene S. Gollin (1954) utilized a motion picture in which an actress portrayed two major behavioral themes, promiscuity and kindness, showing each in separate scenes. After viewing the scenes subjects wrote their impression of the woman in the film. It was found that the formation of these impressions proceeded along three distinct lines. Two of these three categories (Related and Simplified) indicated that the subject achieved unity in his impressions. In the Simplified category, unity was achieved by eliminating one of the major character-qualities suggested by the actress. In the Related category, unity was achieved by organizing the recognized and retained character-qualities by means of an inferential statement that went beyond the data given. In the third category, Aggregated, unity was not achieved. In this category, the subjects indicated that they recognized the presence of both of the major character-qualities, but made no

attempt to relate the two behaviors. A 1958 study was conducted by Gollin in which he employed a similar experimental procedure using children as subjects. The results of this study are congruent with those of the 1954 study.

Conclusions drawn by Hastorf, Schneider, and Polefka. After surveying impression formation literature, Hastorf, Schneider, and Polefka (1970) classified the ways that individuals resolve inconsistencies as:

- (a) relational tendency - either the inconsistent information is changed in meaning or new traits are inferred to relate the inconsistencies.
- (b) discounting tendency - part of the stimulus information is either ignored or reduced in importance.
- (c) linear combination - the impression is some additive combination of the properties of the stimuli.

Summary. The results of several studies in impression formation literature show that there are three major ways that individuals tend to deal with inconsistencies within a single stimulus object.

Conclusions Drawn From the Review of the Literature

In this chapter we have reviewed literature relevant to the present study. We have traced the early interest in incongruent communication to psychotherapy and have suggested that this influence may have encouraged later researchers to make perhaps unwarranted assumptions about the manner in which the naive observer uses verbal and nonverbal cues to make attributions.

We have reviewed the studies of Mehrabian, the chief proponent of the view of generalized dominance of nonverbal over verbal cues, and those of Argyle, who attempted to extend Mehrabian's findings to a more naturalistic setting. We feel that since the Mehrabian studies were limited to single-word stimuli as independent variables and that the dependent variable was measured only on a single + to - continuum, the widespread application of Mehrabian's formula to all types of inconsistent communications in all types of situations seems unwarranted. Also, in the Argyle study, the presence of strong effects for verbal cues and interaction effects (although the effects for nonverbal cues were stronger) indicates that possibly the results of the study cannot be entirely accounted for by a linear weighted averages model of attribution.

Several studies, two of which were very similar in design to the Argyle study, found no generalized dominance of nonverbal cues, but found rather mixed results. That is, they found evidence of negativity effects, of verbal dominance, of nonverbal dominance, and of equal influence of cues. Thus, we concluded that there is ample and substantial evidence in the literature that the nonverbal mode is not always dominant over the verbal mode.

In reviewing the literature from impression formation, we assumed that the problem of inconsistent messages stemming from a single source is very similar to the problem of inconsistent character traits residing within a given individual. Therefore, we felt justified in applying to the present problem the methods of dealing with inconsistencies that were found in impression formation studies. Three general types of naive observers' handling of

inconsistencies were documented.

In conclusion, we feel that there are substantial indications in the literature showing that the generalized dominance of nonverbal over verbal cues is not necessarily the case, and that the literature from impression formation can lend some tools to the exploration and explanation of the relationship between the verbal and the non-verbal modes.

Hypotheses

From this review of the literature the following hypotheses have been derived:

When subjects view a videotaped communication in which the verbal and nonverbal cues are incongruent, measurements of subjects' attributions about the stimulus will not be dominated by either the verbal or the nonverbal mode, but will reflect the equal influence of each mode.

- (1) On the bipolar ratings scales a two-way analysis of variance will show:
 - (a) significant main effects upon ratings for both verbal and nonverbal content
 - (b) that the difference in the actual amount of variance accounted for by the verbal and nonverbal content will be relatively small, e.g. less than or equal to three percentage points.
- (2) The categorization of the free-form written responses

will show that the majority of responses fall into the category,
Mentions Material From Both Modes, and into the subcategory, Attempts
Explanation of Disparity.

CHAPTER 3

METHODOLOGY AND PROCEDURES

The present study was designed to explore the relationship between verbal and nonverbal cues when they are not congruent with each other. It was also hoped that this study would shed light on the general relationship between the verbal and the nonverbal modes. Specifically, the study assessed subjects' attributions about a woman in a videotaped presentation who, in some videotapes, used verbal and nonverbal cues that were congruent with each other and, in other videotapes, used verbal and nonverbal cues that were incongruent with each other.

Two types of measure, bipolar rating scales and free-form responses, were used. The study consisted of two parts, identical in structure, but operationalized in two different ways. One part was concerned with conveying the qualities of assertiveness or unassertiveness, while the second part was concerned with conveying the qualities of cheerfulness or depression. Thus the study was conducted as two 2 X 2 factorial experiments. In both, the independent variables were verbal message cues and nonverbal message cues. In the assertive/unassertive videotapes, the variations for each of the two independent variables were assertive and unassertive. A chart showing the design of this experiment may be found in Table 1. In the cheerful/depressed videotapes, the variations of each of the two independent variables were cheerful and depressed. A chart showing the design of this experiment may be found in Table 2.

TABLE 1

DESIGN OF EXPERIMENT - ASSERTIVE/UNASSERTIVE VIDEOTAPES

		<u>Nonverbal Mode</u>	
		<u>Assertive Cues</u>	<u>Unassertive Cues</u>
<u>Verbal Mode</u>	<u>Assertive Cues</u>	Assertive Congruent n= 13	NV Unassertive/V Assertive Incongruent n= 15
	<u>Unassertive Cues</u>	NV Assertive/V Unassertive Incongruent n= 17	Unassertive Congruent n= 12

TABLE 2

DESIGN OF EXPERIMENT - CHEERFUL/DEPRESSED VIDEOTAPES

		<u>Nonverbal Mode</u>	
		<u>Cheerful Cues</u>	<u>Depressed Cues</u>
<u>Verbal Mode</u>	<u>Cheerful Cues</u>	Cheerful Congruent n= 12	NV Depressed/V Cheerful Incongruent n= 16
	<u>Depressed Cues</u>	NV Cheerful/V Depressed Incongruent n= 16	Depressed Congruent n= 11

Preparation of the Stimulus Material

The independent variables were operationalized by making two sets of four videotapes each (one set for the assertive/unassertive tapes, and one set for the cheerful/depressed tapes) using two female actresses. In each set, two tapes showed congruent verbal and nonverbal cues, while two showed incongruent cues.

The assertive/unassertive videotapes. For preparation of these tapes, the definitions of assertiveness and unassertiveness established by Alberti and Emmons in their book Your Perfect Right, were employed. The assertive and the unassertive scripts (verbal cues) were prepared closely along Alberti and Emmons' guidelines for verbal assertiveness. The two scripts were also carefully matched for identical content, differing only in the manner in which the content was expressed. The actress studied the nonverbal behaviors indicating assertiveness or unassertiveness as listed by Alberti and Emmons and employed them appropriately. A copy of the scripts may be found in Appendix A, along with a copy of the utilized behaviors.

In each of the four tapes the actress was allegedly conversing with her roommate, so that there were actually two women in the tape. There was a head and shoulders shot of the roommate at the beginning of the film to establish her presence. The camera then zoomed in on the main character where it remained focused. The roommate's contributions to the conversation were kept to the lowest feasible level, so that most of the talking was done by the main character.

The cheerful/depressed videotapes. In preparing the scripts for these tapes, synonyms for the words cheerful and depressed were

employed. The synonyms were found in Roget's Thesaurus. In each script there were four statements explicitly stating how the speaker felt. The nonverbal behaviors used in these tapes were assumed from common experience. Behaviors such as frowns, slow speech, quavering voice, and bowed head were employed by the actress to indicate depression. Their opposites were employed to indicate cheerfulness. A copy of the scripts may be found in Appendix B.

The format of having the actress conversing with her roommate was again used.

Subjects

Seventy men and sixty-two women enrolled in the introductory speech classes at the University of Kansas, Spring 1977, volunteered for the experiment, receiving course credit for their participation. Fifty-five subjects viewed the cheerful/depressed tapes and sixty viewed the assertive/unassertive tapes. In order to check the quality of the verbal and nonverbal cues by themselves, thirty-three subjects read the cheerful/depressed scripts, twenty-nine read the assertive/unassertive scripts, and seventeen additional subjects viewed silent tapes.

Procedure

Main experiment. Subjects were scheduled to participate in the experiment in groups of one to six people. Each videotape was shown to at least four different groups.

Upon entering the experimental room, subjects were requested to read and sign the Informed Consent Statement required by the Uni-

versity of Kansas Academic Committee on Human Experimentation. The subjects were then told that this study was about roommate interactions. It was explained that they would view a videotape of a pair of roommates and then rate what they saw on some forms and rating scales. A copy of the instructions, the Informed Consent Statement, and the Cover Story may be found in Appendix C.

Subjects were then shown one of the videotapes, according to which one had been randomly assigned to that subject group. After viewing the tape, subjects first wrote free-form responses to three questions, taking five minutes for each. They then filled out the bipolar rating scales at their own speed. When all subjects had completed their rating scales, they were fully debriefed as to the true nature of the experiment. Any questions they had were answered by the experimenter. A copy of the debriefing may be found in Appendix D.

Manipulation checks. In order to be sure that subjects perceived the nonverbal behavior of the actress as it was intended to be perceived, some subjects viewed only the video portion of the tapes. In this situation a subject viewed all eight tapes without the sound, rating the woman in the tape on the bipolar scales immediately after viewing each tape. The subject was told that the tapes were of eight different conversations in which a given individual participated with her roommate. Subjects were asked to rate each tape on its own merit as much as possible.

A similar check for subjects' perceptions of the verbal content was obtained by having subjects read one of the scripts and rate the main character on the bipolar ratings scales. The subject was told

that the script was actually a transcript from a videotape of a pair of roommates.

Measures

Two types of measures were used: bipolar ratings scales, and free-form written responses. Each will be described below.

Bipolar ratings scales. Three sets of ten seven-point bipolar adjective scales were filled out by the subjects after they had written their free-form responses. These sets were grouped under one of three questions, "What was the person in the videotape feeling?", "What is your impression of the person in the videotape?" and "What was the person in the videotape really trying to get across?" A copy of the scales may be found in Appendix E. The scales under the question "What was the person in the videotape really trying to get across?" were not analyzed further as they were too specific to enable comparisons of subjects in different settings to be made. There remained twenty separate sets of rating scales. For purpose of analysis, these scales were divided into three groups according to their relevance to the concepts manipulated in the videotapes: Scales Directly Relevant to Assertiveness/Unassertiveness, Scales Directly Relevant to Cheerfulness/Depression, and Scales not Directly Relevant to Either Assertiveness/Unassertiveness or Cheerfulness/Depression. Since it was not feasible to collapse the scales in a given category into a single score, a two-way analysis of variance was carried out on each of the twenty scales. An estimate of the Omega squared statistic, which shows the percentage of variance accounted for by each variable, was obtained

for each scale.

Free-form written response questionnaires. The subject was asked to write for five minutes on each of three questions. A copy of each of these questionnaires may be found in Appendix F. Basically the three questions on the forms were, "What was the person in the videotape feeling?" "What is your impression of the person you saw in the videotape?" and "What was the person in the videotape really trying to get across?" The subject received the questionnaires in a prestapled packet assembled so that the questionnaires were in random order. The subject was instructed to answer the questions in the order in which they appeared.

An analysis was performed only on the responses of subjects who viewed videotapes showing incongruent cues. In this analysis responses to each question were treated independently of the other two responses written by the same subject. Each response was sorted into one of two major categories, based on whether the subject mentioned material from both the verbal and the nonverbal modes or mentioned only material from one mode, thereby ignoring material from the other mode. Each of these categories was then divided into two subcategories. The two categories were: Mentions Material From Both Modes, with subcategories, Attempts Explanation of Disparity and Does Not Attempt Explanation; and Mentions Material From One Mode Only with subcategories, Mentions Verbal Quality and Mentions Nonverbal Quality.

Two independent judges categorized a random sample of responses in order to verify the initial categorization. The percentage of

responses falling into each of the categories was computed.

CHAPTER 4

REPORT OF RESULTS

The results of this study are presented in two major sections. In the first section the results from the Assertive/Unassertive videotapes are presented, while the results from the Cheerful/Depressed videotapes are presented in the second section.

The Assertive/Unassertive Videotapes

These results will be presented in three parts--manipulation checks, subjects' ratings of bipolar scales, and subjects' free-form written responses.

Manipulation Checks

Checks of the verbal and nonverbal content were carried out in order to insure that subjects were able to make attributions in the expected directions from one set of cues alone.

Check of verbal content. This check was obtained by having some subjects read the script in which the content was assertive and others read the script in which the content was unassertive.

A one-way analysis of variance performed on each scale showed that there were significant differences at the .001 level between the two means on each of the seven scales most directly relevant to assertiveness/unassertiveness. The means of the ratings fell near the appropriate anchors of the scale. A summary of these results may be found in Table 3.

The analysis also showed that there were significant differences

TABLE 3

MEAN RATINGS OF SCRIPTS IN ASSERTIVE/UNASSERTIVE CONDITIONS
ON SCALES MOST RELEVANT TO ASSERTIVENESS/UNASSERTIVENESS

<u>Bipolar Scales *1</u>	<u>Assertive Script</u>	<u>Unassertive Script</u>	<u>Significance Level</u>
Unassertive - Assertive	5.80	2.79	.001
Timid - Bold	6.00	2.21	.001
Decisive - Indecisive	2.00	5.93	.001
Frightened - Not Frightened	5.33	2.71	.001
Self-Depreciative - Confident	5.67	2.29	.001
Confused - Certain	6.07	2.07	.001
Embarrassed - Not Embarrassed	5.13	1.79	.001

*1 First adjective in each pair has a value of 1, second has value of 7

in means at the .01 level on all of the five scales most relevant to cheerfulness/depression. The assertive script evoked inferences of cheerfulness, while the unassertive script evoked inferences of depression. A summary of these results may be found in Table 4.

Of the remaining eight scales, the means of only three differed at the .05 level of significance or better. These three scales were, Unstable - Stable, Nervous - Relaxed, and Self-Controlled - Agitated. A summary of these results may be found in Table 5.

Check of nonverbal content. This check was obtained by having subjects view all of the videotapes without the sound. A one-way repeated measures analysis of variance was performed.

The analysis showed that seventeen of the twenty scales had significant differences between the nonverbal assertive and the nonverbal unassertive conditions. Nine scales showed significant differences between verbal conditions within the nonverbal unassertive condition. However, only two of these scales were those directly relevant to assertiveness/unassertiveness. No significant differences were found between the verbal conditions within the unassertive nonverbal condition on any scales.

More specifically, the analysis showed that there were differences at the .05 level of significance or better between the nonverbal assertive and nonverbal unassertive tapes mean ratings for all seven of the scales most directly relevant to assertiveness/unassertiveness. Only two scales, Frightened - Not Frightened, and Embarrassed - Not Embarrassed, showed significant differences between the verbal conditions within the assertive nonverbal condition.

TABLE 4

MEAN RATINGS OF SCRIPTS IN ASSERTIVE/UNASSERTIVE CONDITIONS
ON SCALES MOST RELEVANT TO CHEERFULNESS/DEPRESSION

<u>Bipolar Scales *1</u>	<u>Assertive Script</u>	<u>Unassertive Script</u>	<u>Significance Level</u>
Cheerful - Depressed	3.87	5.50	.001
Distressed - Pleased	4.00	2.00	.001
Hopeful - Despairing	2.67	4.43	.01
Included - Lonely	3.13	5.21	.001
Composed - Upset	3.33	5.14	.001

*1 First adjective in each pair has a value of 1, second has value of 7

TABLE 5MEAN RATINGS OF SCRIPTS IN ASSERTIVE/UNASSERTIVE CONDITIONSON SCALES NOT DIRECTLY RELEVANT TO EITHERASSERTIVENESS/UNASSERTIVENESS OR CHEERFULNESS/DEPRESSION

<u>Bipolar Scales *1</u>	<u>Assertive Script</u>	<u>Unassertive Script</u>	<u>Significance Level</u>
Unstable - Stable	5.27	2.64	.001
Nervous - Relaxed	4.40	1.64	.001
Nonexcitable - Emotional	4.27	5.14	ns
Sincere - Insincere	2.40	2.36	ns
Not Friendly - Friendly	4.80	4.86	ns
Trusting - Untrusting	3.47	3.79	ns
Self-Controlled - Agitated	3.27	4.79	.05
Calm - Excited	3.80	4.79	ns

*1 First adjective in each pair has a value of 1, second has a value of 7

There were no significant differences between verbal conditions within the unassertive nonverbal condition. A summary of these results may be found in Table 6.

Of the five scales most relevant to cheerfulness/depression, all showed differences at the .01 level of significance or better between the nonverbal assertive and the nonverbal unassertive tapes mean ratings. Three of these scales, Cheerful - Depressed, Distressed - Pleased, and Hopeful - Despairing, also showed significant differences between the verbal conditions within the nonverbal assertive condition. No significant differences were found between the verbal conditions in the unassertive nonverbal conditions. A summary of these results may be found in Table 7.

The analysis showed that there were significant differences at the .05 level or better between the nonverbal assertive and the nonverbal unassertive tapes mean ratings on five of the scales not directly relevant to either assertiveness/unassertiveness or cheerfulness/depression. Four scales also showed significant differences between verbal conditions in the nonverbal assertive condition, though no differences were found between verbal conditions within the nonverbal unassertive condition. A summary of these results may be found in Table 8.

Ratings on Bipolar Scales

A two-way analysis of variance was performed on each scale. The summary table for each scale may be found in Appendix G.

Effects of variations upon scales most relevant to assertiveness/unassertiveness. The results of the analysis on each of the seven

TABLE 6

MEAN RATINGS OF SILENT TAPES IN ASSERTIVE/UNASSERTIVE CONDITIONS
ON SCALES MOST RELEVANT TO ASSERTIVENESS/UNASSERTIVENESS

<u>Bipolar Adjectives</u> *1	<u>Nonverbal Assertive</u>		<u>Nonverbal Unassertive</u>		<u>Significance Level For Difference Between</u>		
	<u>Verbal</u> <u>Assertive</u>	<u>Verbal</u> <u>Unassertive</u>	<u>Verbal</u> <u>Assertive</u>	<u>Verbal</u> <u>Unassertive</u>	<u>NV Conditions</u>	<u>V Conditions In</u> <u>NV Assertive</u>	<u>V Conditions In</u> <u>NV Unassertive</u>
Unassertive - Assertive	4.81	4.81	3.19	4.13	.05	ns	ns
Timid - Bold	5.00	4.94	2.56	2.38	.001	ns	ns
Decisive - Indecisive	2.44	2.31	3.38	4.25	.01	ns	ns
Frightened - Not Frightened	6.06	5.06	2.50	2.56	.001	.05	ns
Self-Depreciative - Self-Confident	5.88	5.00	2.38	2.56	.001	ns	ns
Confused - Certain	5.38	4.19	2.50	2.13	.001	ns	ns
Embarrassed - Not Embarrassed	5.38	4.19	2.81	2.89	.001	.05	ns

*1 First adjective in each pair
has a value of 1, second has
has a value of 7

TABLE 7

MEAN RATINGS OF SILENT TAPES IN ASSERTIVE/UNASSERTIVE CONDITIONS
ON SCALES MOST RELEVANT TO CHEERFULNESS/DEPRESSION

<u>Bipolar Adjectives</u> *1	<u>Nonverbal Assertive</u>		<u>Nonverbal Unassertive</u>		<u>Significance Level For Differences Between</u>		
	<u>Verbal</u> <u>Assertive</u>	<u>Verbal</u> <u>Unassertive</u>	<u>Verbal</u> <u>Assertive</u>	<u>Verbal</u> <u>Unassertive</u>	<u>NV Conditions</u>	<u>V Conditions In</u> <u>NV Assertive</u>	<u>V Conditions In</u> <u>NV Unassertive</u>
Cheerful - Depressed	2.75	4.25	5.00	6.31	.001	.05	ns
Distressed - Pleased	5.31	3.06	1.88	1.69	.001	.001	ns
Hopeful - Despairing	2.31	3.75	4.06	4.69	.01	.01	ns
Included - Lonely	3.00	3.06	4.69	5.63	.001	ns	ns
Composed - Upset	2.56	3.56	5.13	6.44	.001	ns	ns

*1 First adjective in each pair
has a value of 1, second has
value of 7

TABLE 8

MEAN RATINGS OF SILENT TAPES IN ASSERTIVE/UNASSERTIVE CONDITIONS ON SCALES NOT DIRECTLY RELEVANT TO EITHER
ASSERTIVENESS/UNASSERTIVENESS OR CHEERFULNESS/DEPRESSION

<u>Bipolar Adjectives *1</u>	<u>Nonverbal Assertive</u>		<u>Nonverbal Unassertive</u>		<u>Significance Level For Differences Between</u>		
	<u>Verbal Assertive</u>	<u>Verbal Unassertive</u>	<u>Verbal Assertive</u>	<u>Verbal Unassertive</u>	<u>NV Conditions</u>	<u>V Conditions In NV Assertive</u>	<u>V Conditions In NV Unassertive</u>
Unstable - Stable	5.56	4.50	2.81	2.94	.001	.05	ns
Nervous - Relaxed	5.63	4.25	1.56	1.75	.001	ns	ns
Nonexcitable - Emotional	4.31	4.50	4.50	5.63	ns	ns	ns
Sincere - Insincere	1.88	3.06	1.88	2.36	ns	.05	ns
Not Friendly - Friendly	5.94	3.88	3.63	4.38	.05	.001	ns
Trusting - Untrusting	2.25	3.44	3.00	3.56	ns	ns	ns
Self-Controlled - Agitated	1.69	3.19	3.88	4.88	.001	.05	ns
Calm - Excited	3.00	3.44	3.94	4.44	.05	ns	ns

*1 First adjective in each pair
has a value of 1, second has
value of 7

scales most relevant to assertiveness/unassertiveness are summarized in Table 9. Over all, the average amount of variance accounted for by the verbal mode was 17.01% and that accounted for by the nonverbal mode was 9.64%. As a group, these scales showed evidence that subjects attended to both verbal and nonverbal modes, but that verbal cues were given somewhat greater weight over all than nonverbal cues.

On two of the bipolar scales, Unassertive - Assertive and Frightened - Not Frightened, there were significant main effects for both verbal and nonverbal content. Also on these scales, we note that the difference in the amount of variance accounted for by each type of cue was less than three percentage points.

Two other scales, Timid - Bold and Self-Depreciative - Self-Confident, also showed significant main effects for both verbal and nonverbal content. However, the difference in the amount of variance accounted for by each mode was greater than three percentage points on both of these scales. On one scale, Timid - Bold, the nonverbal mode accounted for more of the variance than did the verbal mode. On the other scale, Self-Depreciative - Self-Confident the verbal mode accounted for more of the variance than did the nonverbal mode.

On the remaining three scales, Decisive - Indecisive, Confused - Certain, and Embarrassed - Not Embarrassed, only variations in the verbal mode produced a significant main effect. In each case, the amount of variance accounted for by the verbal mode was substantially greater than the amount accounted for by the nonverbal mode.

No significant effects for an interaction between verbal and nonverbal cues were found on any of these scales.

TABLE 9

MEANS OF EXPERIMENTAL GROUPS IN ASSERTIVE/UNASSERTIVE CONDITIONS ON SCALES MOST RELEVANT TO
ASSERTIVENESS/UNASSERTIVENESS AND PROPORTION OF VARIANCE ATTRIBUTABLE TO VERBAL AND NONVERBAL CUES

Bipolar Adjectives *1	Nonverbal Assertive		Nonverbal Unassertive		Percentage of Variance Accounted For By		
	Verbal Assertive	Verbal Unassertive	Verbal Assertive	Verbal Unassertive	Verbal	Nonverbal	Interaction
Unassertive - Assertive	5.00	3.44	3.50	2.33	14.44%***	12.25%**	0.0% ns
Timid - Bold	4.69	3.06	2.86	1.92	12.25%**	17.64%***	0.0% ns
Decisive - Indecisive	3.00	4.53	3.57	5.17	26.01%***	1.44% ns	0.0% ns
Frightened - Not Frightened	4.94	2.94	2.79	2.08	15.21%***	17.64%***	0.94%ns
Self-Depreciative - Self-Confident	4.69	3.12	3.33	2.08	18.49%***	10.89%**	0.0% ns
Confused - Certain	5.56	3.18	3.93	3.25	23.04%***	3.24% ns	1.83%ns
Embarrassed - Not Embarrassed	4.50	2.50	2.79	2.42	9.61%**	4.41% ns	0.71%ns
					x=17.01%	x= 9.64%	x= 0.50%

*1 First adjective in each pair
has a value of 1, second has
a value of 7

* p < .05
** p < .01
*** p < .001

Effects of variations upon scales most relevant to cheerfulness/depression. A summary of these results may be found in Table 10. Over all of these five scales, the average amount of variance accounted for by the verbal mode was 15.04%, and that accounted for by the nonverbal mode was 10.56%. As a group, these scales showed considerable evidence that subjects attended to both the verbal and the nonverbal modes and slight evidence of dominance of the verbal mode.

On three of these scales, Cheerful - Depressed, Distressed - Pleased, and Composed - Upset, there were significant main effects for both verbal and nonverbal content. Also on these scales, the difference in the amount of variance accounted for by each mode was less than three percentage points.

The remaining two scales of this group also showed significant main effects for both verbal and nonverbal content, however, the difference in the amount of variance accounted for by each mode on these scales was greater than three percentage points. On one scale, Hopeful - Despairing, the verbal content accounted for much more of the variance than did the nonverbal content, while on the other scale, Included - Lonely, the nonverbal content accounted for somewhat more of the variance than did the verbal mode.

No significant nonverbal X verbal interactions were found on any of these scales.

Effects of variations upon scales not directly relevant to either assertiveness/unassertiveness or cheerfulness/depression. A summary of these results may be found in Table 11. Over all of

TABLE 10

MEANS OF EXPERIMENTAL GROUPS IN ASSERTIVE/UNASSERTIVE CONDITIONS ON SCALES MOST RELEVANT TO
CHEERFULNESS/DEPRESSION AND PROPORTION OF VARIANCE ATTRIBUTABLE TO VERBAL AND NONVERBAL CUES

Bipolar Adjectives *1	Nonverbal Assertive		Nonverbal Unassertive		Percentage of Variance Accounted For By		
	Verbal Assertive	Verbal Unassertive	Verbal Assertive	Verbal Unassertive	Verbal	Nonverbal	Interaction
Cheerful - Depressed	4.20	5.24	5.27	5.67	7.29%*	7.29%*	0.0% ns
Distressed - Pleased	3.40	2.18	2.13	1.33	11.56%**	12.25%**	0.0% ns
Hopeful - Despairing	2.56	5.29	4.27	5.42	30.25%***	4.00%*	0.0% ns
Included - Lonely	3.88	5.00	5.14	6.33	15.21%***	20.25%***	0.0% ns
Composed - Upset	3.38	5.41	5.29	5.75	10.89%**	9.00%**	0.82% ns
					$\bar{x}=15.04\%$	$\bar{x}=10.56\%$	$\bar{x}=0.16\%$

*1 First adjective in each pair
has a value of 1, second has
value of 7

* p<.05
** p<.01
*** p<.001

TABLE 11

MEANS OF EXPERIMENTAL GROUPS IN ASSERTIVE/UNASSERTIVE CONDITIONS ON SCALES NOT DIRECTLY RELEVANT TO EITHER ASSERTIVENESS/UNASSERTIVENESS OR CHEERFULNESS/DEPRESSION AND PROPORTION OF VARIANCE ATTRIBUTABLE TO VERBAL AND NONVERBAL CUES

Bipolar Adjectives *1	Nonverbal Assertive		Nonverbal Unassertive		Percentage Of Variance Accounted For By		
	Verbal Assertive	Verbal Unassertive	Verbal Assertive	Verbal Unassertive	Verbal	Nonverbal	Interaction
Unstable - Stable	5.44	3.06	3.93	3.50	16.81%*	3.24% ns	3.88% ns
Nervous - Relaxed	3.31	1.94	2.07	1.83	7.29%*	3.61% ns	0.0% ns
Nonexcitable - Emotional	4.63	5.53	4.80	5.50	8.41%*	0.04% ns	0.0% ns
Sincere - Insincere *2	2.38 _{ab}	3.53 _b	2.14 _a	2.33 _{ab}	6.25% ns	5.76% ns	6.62%*
Not Friendly - Friendly	4.38	4.12	4.36	3.92	1.00% ns	0.09% ns	0.0% ns
Trusting - Untrusting	2.94	3.65	2.93	2.92	1.44% ns	1.21% ns	0.0% ns
Self-Controlled - Agitated	2.81	4.03	3.53	4.00	4.21% ns	2.24% ns	2.36% ns
Calm - Excited	3.88	4.29	4.57	4.75	0.25% ns	3.24% ns	0.0% ns
					\bar{x} = 5.71%	\bar{x} = 2.43%	\bar{x} = 1.61%

*1 First adjective in each pair has a value of 1, second has value of 7

*2 Means in the same row with a common subscript do not differ significantly at .05

* $p < .05$
 ** $p < .01$
 *** $p < .001$

these eight scales, the average amount of variance accounted for by the verbal mode was 5.71%, that accounted for by the nonverbal mode was 2.43%, and that accounted for by the interactions was 1.61%. Four scales showed no significant results. The four scales that did show significant results were as a group, dominated by the verbal mode.

On three of these scales, Unstable - Stable, Nervous - Relaxed, and Nonexcitable - Emotional, there was a significant main effect for verbal content only. In each case the amount of variance accounted for by the verbal mode substantially exceeded that accounted for by the nonverbal mode.

On a fourth scale, Sincere - Insincere, there was a significant nonverbal X verbal interaction. In addition, on this scale, each main effect was nearly significant. A multiple range test (Tukey B) showed that subjects perceived the woman in the videotape as most sincere in the nonverbal unassertive/verbal assertive condition and as most insincere in the nonverbal assertive/verbal unassertive condition. Thus perceptions of insincerity did not appear to depend simply upon the congruency or incongruency of the woman's verbal and nonverbal cues.

The remaining four scales showed no significant effects at all.

Summary of ratings on all of the bipolar scales. Over all of the sixteen scales which showed significant results, the average amount of variance accounted for by the verbal mode was 14.56%, that accounted for by the nonverbal mode was 8.31%, and that accounted for by the interactions was 0.93%. Slightly over half

of those scales showing significant results either partially or wholly showed that subjects attended to both the verbal and the nonverbal modes, while the majority of the remainder showed strong dominance by the verbal mode.

More specifically, ratings on only five scales showed main effects for both the verbal and nonverbal mode while also showing that these two modes accounted for nearly equivalent amounts of the variance. Four of the remaining fifteen scales showed main effects for both nonverbal and verbal content, but no equivalence in the amount of variance accounted for by the two modes. On two of these scales the verbal mode accounted for the greater amount of variance, while on the other two, the nonverbal mode accounted for the greater amount. Of the remaining eleven scales, one showed a significant nonverbal X verbal interaction, while six of these scales showed significant effects for verbal content only. Four of these scales showed no significant effects at all. On no scale were significant effects for nonverbal content only found.

Free-Form Written Responses

Analysis of the written responses was performed only on those responses obtained from subjects who viewed tapes showing incongruence between the verbal and the nonverbal modes. Each subject wrote answers to three separate questions and each question was sorted independently of the other two. In the analysis the responses were sorted into one of two major categories according to the manner in which the subject dealt with the incongruency presented in the

tapes. That is, did the subject mention material from both the verbal and the nonverbal modes, or did he mention material from only one mode, thereby ignoring the other mode? Each major category was divided into subcategories. The major category Mentions Material From Both Modes was divided into two subcategories according to whether or not the subject attempted to explain the incongruency. The major category Mentions Material From One Mode Only was divided into two subcategories according to whether the subject mentioned only material from the verbal mode or only material from the nonverbal mode.

An independent judge categorizing a random sample of responses checked the original sorting of the responses. An agreement of 90% was reached between the two sortings.

A summary of results from the free-form written responses may be found in Table 12.

Results obtained by categorizing the free-form written responses to the nonverbal unassertive/verbal assertive videotape. Twenty-six of the responses fell in the Mentions Material From Both Modes category. Of these, only six did not attempt an explanation for the incongruency, while twenty responses did attempt an explanation.

Nineteen of the responses fell into the Mentions Material From One Mode Only category. Eight of these mentioned only material obtained from the nonverbal mode and eleven mentioned only material obtained from the verbal mode.

Results obtained by categorizing the free-form written responses to the nonverbal assertive/verbal unassertive videotape. Seventeen

TABLE 12

CATEGORIZATION OF FREE-FORM RESPONSES TO INCONGRUENT VIDEOTAPES IN
ASSERTIVE/UNASSERTIVE CONDITIONS ACCORDING TO METHOD OF DEALING WITH INCONSISTENCY

<u>Videotape</u>	<u>Mentions Material From Both Modes</u>		<u>Mentions Material From One Mode Only</u>		<u>Total Number of Responses</u>
	<u>Does Not Explain Disparity</u>	<u>Attempts Explanation of Disparity</u>	<u>Mentions Nonverbal Quality</u>	<u>Mentions Verbal Quality</u>	
Nonverbal Unassertive/ Verbal Assertive	6 (13.3%)	20 (44.5%)	8 (17.8%)	11 (24.4%)	45
Nonverbal Assertive/ Verbal Unassertive	2 (4.1%)	15 (30.6%)	0 (0.0%)	32 (65.3%)	49

of the responses fell into the Mentions Material From Both Modes category. Only two responses did not attempt an explanation, while fifteen did attempt to explain the disparity.

Thirty-two of the responses fell into the Mentions Material From One Mode Only. All thirty-two of these responses mentioned only material obtained from the verbal mode. No responses mentioned only material that could have been obtained from the nonverbal mode.

Summary of results obtained from the free-form written responses.

The results obtained from the two videotapes were quite different. Whereas the majority of the responses to the nonverbal unassertive/verbal assertive tape mentioned material from both modes and also tried to explain the incongruency, the majority of the responses to the nonverbal assertive/verbal unassertive tape mentioned only material from the verbal mode.

Overall Summary of the Results Obtained From Both Types of Measurements

About one-half of the bipolar scale ratings which showed significant results showed that subjects had attended to both the verbal and the nonverbal modes, while most of the remainder showed strong dominance by the verbal mode. The findings from the free-form written responses showed for one tape that subjects had attended to both modes, while showing for the other tape that subjects had attended most strongly to the verbal mode.

The Cheerful/Depressed Videotapes

These results will be presented in three parts--manipulation checks, subjects' ratings of the videotapes on bipolar scales, and subjects' free-form written responses.

Manipulation Checks

Checks of the verbal and nonverbal content were carried out in order to insure that subjects were able to make attributions in the expected directions from one set of cues alone.

Check of verbal content. This check was obtained by having some subjects read the script in which the content was cheerful and others read the script in which the content was depressed.

A one-way analysis of variance performed on each scale showed that there were significant differences at the .001 level between the two means on each of the five scales most directly relevant to cheerfulness/depression. The means of the ratings fell near the appropriate anchors of the scale. A summary of these results may be found in Table 13.

The analysis also showed that there were significant differences in means at the .001 level on four of the seven scales directly relevant to assertiveness/unassertiveness. The cheerful script evoked inferences of assertiveness, while the depressed script evoked inferences of unassertiveness. These scales were: Frightened - Not Frightened, Confused - Certain, Self-Depreciative - Self-Confident, and Embarrassed - Not Embarrassed. The remaining three scales in this category showed no significant differences between means. A summary of these results may be found in Table 14.

TABLE 13MEAN RATINGS OF SCRIPTS IN CHEERFUL/DEPRESSED CONDITIONSON SCALES MOST RELEVANT TO CHEERFULNESS/DEPRESSION

<u>Bipolar Scales</u> *1	<u>Assertive</u> <u>Script</u>	<u>Unassertive</u> <u>Script</u>	<u>Significance</u> <u>Level</u>
Cheerful - Depressed	2.21	6.42	.001
Distressed - Pleased	5.86	1.74	.001
Hopeful - Despairing	2.14	6.00	.001
Included - Lonely	3.14	6.47	.001
Composed - Upset	2.36	5.89	.001

*1 First adjective in each pair has a value of 1, second has value of 7

TABLE 14

MEAN RATINGS OF SCRIPTS IN CHEERFUL/DEPRESSED CONDITIONS
ON SCALES MOST RELEVANT TO ASSERTIVENESS/UNASSERTIVENESS

<u>Bipolar Scales *1</u>	<u>Assertive Script</u>	<u>Unassertive Script</u>	<u>Significance Level</u>
Unassertive - Assertive	4.69	3.74	ns
Timid - Bold	3.79	3.11	ns
Decisive - Indecisive	4.00	4.32	ns
Frightened - Not Frightened	5.50	3.00	.001
Self-Depreciative - Confident	4.71	2.11	.001
Confused - Certain	5.07	2.42	.001
Embarrassed - Not Embarrassed	5.71	3.26	.001

*1 First adjective in each pair has a value of 1, second has value of 7

Of the eight scales which are not directly relevant to either assertiveness/unassertiveness or cheerfulness/depression, only three showed significant differences between means at the .05 level. These three scales were: Unstable - Stable, Not Friendly - Friendly, and Nervous - Relaxed. There were no significant differences found on the remaining five scales. A summary of these results may be found in Table 15.

Check of nonverbal content. This check was obtained by having subjects view all of the videotapes without the sound. A one-way repeated measures analysis of variance was performed. The analysis showed that seventeen of the twenty scales had a significant difference between the nonverbal cheerful and the nonverbal depressed mean tape ratings. Only two scales showed significant differences between verbal conditions within the depressed nonverbal condition. Neither of these was on a scale directly relevant to cheerfulness/depression. No significant differences were found between the verbal conditions within the cheerful nonverbal condition.

More specifically, all five of the scales most relevant to cheerfulness/depression showed differences at the .001 level between the nonverbal cheerful and the nonverbal depressed conditions. No significant differences were found between verbal conditions within either the nonverbal cheerful or the nonverbal depressed conditions. A summary of these results may be found in Table 16.

Of the seven scales most relevant to assertiveness/unassertiveness, all showed differences at the .01 level or better between the nonverbal cheerful and the nonverbal depressed conditions. On only one scale, Confused - Certain, was there found a significant differ-

TABLE 15

MEAN RATINGS OF SCRIPTS IN CHEERFUL/DEPRESSED CONDITIONS
ON SCALES NOT DIRECTLY RELEVANT TO EITHER
CHEERFULNESS/DEPRESSION OR ASSERTIVENESS/UNASSERTIVENESS

<u>Bipolar Scales</u> *1	<u>Assertive</u> <u>Script</u>	<u>Unassertive</u> <u>Script</u>	<u>Significance</u> <u>Level</u>
Unstable - Stable	4.64	3.32	.05
Nervous - Relaxed	4.86	2.58	.001
Nonexcitable - Emotional	5.21	4.74	ns
Sincere - Insincere	2.50	2.58	ns
Not Friendly - Friendly	6.15	4.28	.001
Trusting - Untrusting	2.71	3.74	ns
Self-Controlled - Agitated	3.21	3.89	ns
Calm - Excited	4.00	3.67	ns

*1 First adjective in each pair has a vlaue of 1, second has a value of 7

TABLE 16

MEAN RATINGS OF SILENT TAPES IN CHEERFUL/DEPRESSED CONDITIONS
ON SCALES MOST RELEVANT TO CHEERFULNESS/DEPRESSION

<u>Bipolar Scales *1</u>	<u>Nonverbal Cheerful</u>		<u>Nonverbal Depressed</u>		<u>Significance Level For Difference Between</u>		
	<u>Verbal Cheerful</u>	<u>Verbal Depressed</u>	<u>Verbal Cheerful</u>	<u>Verbal Depressed</u>	<u>NV Conditions</u>	<u>V Conditions In NV Cheerful</u>	<u>V Conditions In NV Depressed</u>
Cheerful - Depressed	1.44	1.25	5.56	4.63	.001	ns	ns
Distressed - Pleased	6.06	5.50	1.75	1.38	.001	ns	ns
Hopeful - Despairing	1.63	1.50	4.63	4.31	.001	ns	ns
Included - Lonely	1.81	1.44	4.69	4.00	.001	ns	ns
Composed - Upset	1.50	1.63	5.44	4.63	.001	ns	ns

*1 First adjective in each pair
 has a value of 1, second has
 value of 7

ence between verbal conditions within the nonverbal depressed condition. No significant differences were found between verbal conditions within the nonverbal cheerful condition. A summary of these results may be found in Table 17.

Five of the eight scales not directly relevant to cheerfulness/depression or assertiveness/unassertiveness showed significant differences at the .01 level or better between the nonverbal cheerful and the nonverbal depressed conditions. On only one scale, Unstable - Stable, was there found a significant difference between verbal conditions within the nonverbal cheerful condition. A summary of these results may be found in Table 18.

Summary of manipulation checks. Both the verbal and the nonverbal manipulation checks showed that subjects were able to significantly differentiate between cheerful and depressed stimuli on all five of the scales most directly relevant to cheerfulness/depression, the concept manipulated in the videotapes. From the nonverbal information, subjects also differentiated on all seven of the scales directly relevant to assertiveness/unassertiveness; while from the verbal information they significantly differentiated on four of these scales. Subjects differentiated between the stimuli on five of the remaining eight scales from the nonverbal information, and between the stimuli on three of these scales from the verbal information.

Ratings on Bipolar Scales

A two-way analysis of variance was performed on each scale. The summary tables for the analysis of variance on each scale may

TABLE 17

MEAN RATINGS OF SILENT TAPES IN CHEERFUL/DEPRESSED CONDITIONS
ON SCALES MOST RELEVANT TO ASSERTIVENESS/UNASSERTIVENESS

<u>Bipolar Scales *1</u>	<u>Nonverbal Cheerful</u>		<u>Nonverbal Depressed</u>		<u>Significance Level For Difference Between</u>		
	<u>Verbal Cheerful</u>	<u>Verbal Depressed</u>	<u>Verbal Cheerful</u>	<u>Verbal Depressed</u>	<u>NV Conditions</u>	<u>V Conditions In NV Cheerful</u>	<u>V Conditions In NV Depressed</u>
Unassertive - Assertive	4.81	4.38	3.56	2.56	.01	ns	ns
Timid - Bold	4.94	4.56	2.69	2.00	.001	ns	ns
Decisive - Indecisive	2.13	2.19	4.50	3.56	.001	ns	ns
Frightened - Not Frightened	6.06	5.75	3.00	1.94	.001	ns	ns
Self-Depreciative - Self-Confident	6.25	5.31	3.00	2.06	.001	ns	ns
Confused - Certain	5.81	5.00	2.50	1.31	.001	ns	.05
Embarrassed - Not Embarrassed	5.44	5.00	3.63	2.69	.01	ns	ns

*1 First adjective in each pair
has a value of 1, second has
value of 7

TABLE 18

MEAN RATINGS OF SILENT TAPES IN CHEERFUL/DEPRESSED CONDITIONS ON SCALES NOT DIRECTLY RELEVANT TO EITHER
CHEERFULNESS/DEPRESSION OR ASSERTIVENESS/UNASSERTIVENESS

<u>Bipolar Scales *1</u>	<u>Nonverbal Cheerful</u>		<u>Nonverbal Depressed</u>		<u>Significance Level For Difference Between</u>		
	<u>Verbal Cheerful</u>	<u>Verbal Depressed</u>	<u>Verbal Cheerful</u>	<u>Verbal Depressed</u>	<u>NV Conditions</u>	<u>V Conditions In NV Cheerful</u>	<u>V Conditions In NV Depressed</u>
Unstable - Stable	6.00	5.13	3.63	1.94	.001	ns	.01 .
Nervous - Relaxed	5.69	5.63	2.50	1.69	.001	ns	ns
Nonexcitable - Emotional	5.13	4.50	5.06	4.50	ns	ns	ns
Sincere - Insincere	2.00	1.75	2.50	2.06	ns	ns	ns
Not Friendly - Friendly	5.94	5.81	4.31	3.38	.001	ns	ns
Trusting - Untrusting	2.00	1.69	3.31	2.63	.01	ns	ns
Self-Controlled - Agitated	1.81	1.50	4.31	4.00	.001	ns	ns
Calm - Excited	2.75	2.44	4.13	2.88	ns	ns	ns

*1 First adjective in each pair
has a value of 1, second has
value of 7

be found in Appendix H.

Effects of variations on scales most relevant to cheerfulness/depression. A summary of the results obtained on these five scales may be found in Table 19. Four of the five scales in this category showed evidence of a significant interaction effect which appeared to be due to a depression effect. The fifth scale also showed this pattern, although the interaction was not significant. On each of these five scales, whenever evidence of depression was present, regardless of the mode in which it appeared, the woman was rated as depressed. Over all five scales, the average amount of variance accounted for by the nonverbal cues was 8.42%, that accounted for by the verbal cues was 18.97%, and that accounted for by the interactions was 7.43%.

More specifically, four of the scales in this category showed main effects for both verbal and nonverbal content, along with their significant interactions. These scales were: Cheerful - Depressed, Distressed - Pleased, Included - Lonely, and Hopeful - Deppairing. However, a multiple range test (Tukey B) indicated that the main effects were carried by the interactions.

The remaining scale, Composed - Upset showed a significant main effect for verbal content only and no significant interaction. It should be noted that even though the interaction was not significant, the pattern of these means was quite similar to that of the other four scales.

In summary, the ratings on this group of scales seemed to be chiefly determined by the depression effect, that is whenever evidence of depression occurred, whether verbally or nonverbally, sub-

TABLE 19

MEANS OF EXPERIMENTAL GROUPS IN CHEERFUL/DEPRESSED CONDITIONS ON SCALES MOST RELEVANT TO
CHEERFULNESS/DEPRESSION AND PROPORTION OF VARIANCE ATTRIBUTABLE TO VERBAL AND NONVERBAL CUES

Bipolar Adjectives *1	Nonverbal Cheerful		Nonverbal Depressed		Percentage of Variance Accounted For By		
	Verbal Cheerful	Verbal Depressed	Verbal Cheerful	Verbal Depressed	Verbal	Nonverbal	Interaction
Cheerful - Depressed *2	2.17	5.63 _a	5.69 _a	6.64 _a	16.81%***	19.36%***	5.80%
Distressed - Pleased	5.73	2.00 _a	2.50 _a	1.91 _a	20.25%***	10.24%***	12.07***
Hopeful - Despairing	2.73	5.44 _a	5.00 _a	5.64 _a	11.56%**	5.29%	4.66%**
Included - Lonely	2.00	6.44 _a	5.00 _a	6.18 _a	30.25%***	3.61%**	11.71%***
Composed - Upset	3.45	5.80	5.13	5.91 _a	16.00%***	3.61% ns	2.91% ns
					\bar{x} =18.97%	\bar{x} = 8.42%	\bar{x} = 7.43%

*1 First adjective in each pair
has a value of 1, second has
value of 7

*2 Means in the same row with a
common subscript do not differ
significantly at .05

* $p < .05$
** $p < .01$
*** $p < .001$

jects inferred that the woman was depressed.

Effects of variations upon scales most relevant to assertiveness/unassertiveness. A summary of the results obtained on these seven scales may be found in Table 20. The pattern of results on these scales was much different from that obtained on the scales most relevant to cheerfulness/depression, for on the present scales there were no interactions at all. As a whole, this group of scales was dominated by the nonverbal mode. Over all, the average amount of variance that was accounted for by the nonverbal cues was 15.78%, and that accounted for by the verbal cues was 5.29%.

More specifically, three scales, Confused - Certain, Frightened - Not Frightened, and Unassertive - Assertive, all showed main effects for both verbal and nonverbal cues, with no interactions. On the scale, Confused - Certain, verbal and nonverbal modes accounted for equivalent amounts of the variance, while on Frightened - Not Frightened, the verbal mode accounted for more variance, and on the scale Unassertive - Assertive, the nonverbal mode accounted for more variance.

Three of the remaining scales, Self-Depreciative - Self-Confident, Decisive - Indecisive, and Timid - Bold, each showed a significant main effect for nonverbal content, with the nonverbal mode accounting for substantially more of the variance than the verbal mode. Again, no significant interaction effects were found.

The scale, Embarrassed - Not Embarrassed, showed no significant effects at all.

Effects of variations upon scales not directly relevant to either

TABLE 20

MEANS OF EXPERIMENTAL GROUPS IN CHEERFUL/DEPRESSED CONDITIONS ON SCALES MOST RELEVANT TO
 ASSERTIVENESS/UNASSERTIVENESS AND PROPORTION OF VARIANCE ATTRIBUTABLE TO VERBAL AND NONVERBAL CUES

Bipolar Adjectives *1	Nonverbal		Nonverbal		Percentage of Variance		
	Verbal Cheerful	Verbal Depressed	Verbal Cheerful	Verbal Depressed	Accounted For By Verbal	Nonverbal	Interaction
Unassertive - Assertive	5.36	4.30	3.56	2.36	4.41%*	17.64%***	0.0% ns
Timid - Bold	4.18	4.13	2.75	2.82	0.64% ns	17.64% ***	0.0% ns
Decisive - Indecisive	2.82	3.31	5.13	5.00	0.25% ns	26.01%***	1.14% ns
Frightened - Not Frightened	5.58	3.44	4.13	2.73	19.36%**	5.76%**	0.0% ns
Self-Depreciative - Self-Confident	4.92	3.69	2.19	2.00	0.36% ns	32.49%**	0.0% ns
Confused - Certain	4.58	2.69	2.63	1.73	8.41%**	10.89%**	0.0% ns
Embarrassed - Not Embarrassed	4.00	3.44	3.75	2.91	3.61% ns	0.04% ns	0.0% ns

*1 First adjective in each pair
 has a value of 1, second has
 a value of 7

\bar{x} = 5.29% \bar{x} = 15.78% \bar{x} = 0.16%

* p < .05
 ** p < .01
 *** p < .001

assertiveness/unassertiveness or cheerfulness/depression. A summary of the results obtained on these eight scales may be found in Table 21. As a whole this group of scales was dominated by the nonverbal mode. Over all, the average amount of variance accounted for by the nonverbal cues was 5.17%, that accounted for by the verbal cues was 0.75%, and that accounted for by the interactions was 2.23%.

More specifically, three of these scales, Self-Controlled - Agitated, Unstable - Stable, and Not Friendly - Friendly, showed significant main effects for nonverbal content with the nonverbal mode accounting for substantially more of the variance than the verbal mode. The scale Friendly - Not Friendly, also showed a significant interaction effect. A multiple range test (Tukey B) showed that this interaction was not due to the depression effect, but seemed due to a unique combination of cues.

A fourth scale, Nervous - Relaxed, showed only a significant interaction. A multiple range test (Tukey B) showed that the interaction was due to the previously mentioned depression effect.

Summary of ratings on all of the bipolar scales. As a whole, the bipolar scales ratings of the cheerful/depressed videotapes were characterized by two influences--the depression effect, and the dominance of the nonverbal mode. Over the fifteen scales which showed significant results, the average amount of variance accounted for by the nonverbal cues was 12.59%, that accounted for by the verbal cues was 8.82%, and that accounted for by the interactions was 3.47%.

More specifically, the depression effect was the chief factor

TABLE 21

MEANS OF EXPERIMENTAL GROUPS IN CHEERFUL/DEPRESSED CONDITIONS ON SCALES NOT DIRECTLY RELEVANT TO EITHER
CHEERFULNESS/DEPRESSION OR ASSERTIVENESS/UNASSERTIVENESS AND PROPORTION OF VARIANCE ATTRIBUTABLE TO VERBAL AND NONVERBAL CUES

Bipolar Adjectives *1	Nonverbal Cheerful		Nonverbal Depressed		Percentage Of Variance Accounted For By		
	Verbal Cheerful	Verbal Depressed	Verbal Cheerful	Verbal Depressed	Verbal	Nonverbal	Interaction
Unstable - Stable	4.58	3.75	3.13	2.73	0.64% ns	10.89% ⁺⁺	0.0% ns
Nervous - Relaxed *2	3.64 _b	2.13 _a	2.19 _a	2.36 _{ab}	3.24% ns	2.89% ns	5.52%*
Nonexcitable - Emotional	5.91	5.50	5.81	5.73	0.64% ns	0.36% ns	0.0% ns
Sincere - Insincere	2.75	3.25	3.56	2.18	1.21% ns	0.09% ns	3.17% ns
Not Friendly - Friendly	6.00 _b	4.56 _{ab}	3.81 _a	4.70 _{ab}	0.04% ns	12.25% ⁺⁺	5.08% ⁺⁺
Trusting - Untrusting	3.18	3.69	3.88	3.27	0.04% ns	1.00% ns	0.0% ns
Self-Controlled - Agitated	2.92	3.94	4.75	4.45	0.04% ns	10.24% ⁺⁺	0.06% ns
Calm - Excited	5.27	4.69	4.06	4.64	0.16% ns	3.61% ns	4.04% ns
					\bar{x} = 0.75%	\bar{x} = 5.17%	\bar{x} = 1.73%

*1 First adjective in each pair
has a value of 1, second has
value of 7

*2 Means in the same row with a
common subscript do not differ
significantly at .05

* p < .05
++ p < .01
+++ p < .001

in variations of ratings of four of the scales most relevant to cheerfulness/depression and on one of the scales not directly relevant to either cheerfulness/depression or assertiveness/unassertiveness. Of the remaining ten scales that showed any significant effects, six were strongly dominated by nonverbal cues, two partially supported the hypothesis, one fully supported the hypothesis, and one was dominated by verbal cues.

Free-Form Written Responses

Analysis of the written responses was performed only on those responses obtained from subjects who viewed tapes showing incongruence between the verbal and the nonverbal modes. Each subject wrote answers to three separate questions and each question was sorted independently of the other two. In the analysis the responses were sorted into one of two major categories according to the manner in which the subjects dealt with the incongruence presented in the tapes. That is, did the subject mention material from only one mode, thereby ignoring the other mode, or did he mention material from both the verbal and the nonverbal modes? Each major category was divided into subcategories. The major category Mentions Material From Both Modes was divided into two subcategories according to whether or not the subject attempted to explain the incongruency. The major category Mentions Material From One Mode Only was divided into two subcategories according to whether the subject mentioned only material from the verbal mode or only material from the nonverbal mode.

An independent judge categorizing a random sample of responses

checked the original sorting of responses. An agreement of 90% was reached between the two sortings.

A summary of the results from the free-form responses may be found in Table 22.

Results obtained by categorizing the free-form written responses to the nonverbal depressed/verbal cheerful videotape. Forty-two of the responses to this videotape fell in the Mentions Material From Both Modes category. Only four responses did not attempt to explain the disparity between the two modes, while thirty-eight responses did attempt an explanation.

Only two responses fell in the Mentions Material From One Mode Only category. Both of these responses mentioned only material from the verbal mode.

Results obtained by categorizing the free-form written responses to the nonverbal cheerful/verbal depressed videotape. Eighteen of the responses fell in the Mentions Material From Both Modes category. Only two responses did not attempt to explain the disparity between the two modes, while sixteen responses did attempt an explanation.

Thirty responses fell in the Mentions Material From One Mode Only category. Of those responses, 100% mentioned only material obtained from the verbal mode. No responses mentioned material that could have been obtained from the nonverbal mode.

Summary of results obtained from the free-form written responses. The results obtained from the two videotapes were quite different. Whereas the overwhelming majority of responses to the

TABLE 22

CATEGORIZATION OF FREE-FORM RESPONSES TO INCONGRUENT VIDEOTAPES IN
CHEERFUL/DEPRESSED CONDITIONS ACCORDING TO METHOD OF DEALING WITH INCONSISTENCY

<u>Videotape</u>	<u>Mentions Material From Both Modes</u>		<u>Mentions Material From One Mode Only</u>		<u>Total Number of Responses</u>
	<u>Does Not Explain Disparity</u>	<u>Attempts Explanation of Disparity</u>	<u>Mentions Nonverbal Quality</u>	<u>Mentions Verbal Quality</u>	
Nonverbal Depressed/ Verbal Cheerful	4 (9.1%)	38 (86.4%)	0 (0.0%)	2 (4.5%)	44
Nonverbal Cheerful/ Verbal Depressed	2 (4.2%)	16 (33.3%)	0 (0.0%)	30 (62.5%)	48

nonverbal depressed/verbal cheerful tape mentioned material from both modes and also tried to explain the incongruency, the majority of responses to the nonverbal cheerful/verbal depressed tape mentioned only material from the verbal mode.

Overall Summary of the Results Obtained From Both Types of Measurements

The bipolar scale ratings gave some indication of a strong depression effect (evident chiefly on those scales most relevant to cheerfulness/depression) and some indication of nonverbal dominance. There was only slight evidence that subjects had attended to both modes. The findings from the free-form written responses showed overwhelmingly, for one tape, that subjects had attended to both modes, while showing for the other tape that subjects had attended most strongly to the verbal mode.

CHAPTER 5

DISCUSSION OF RESULTS

The theoretical basis of this study was the view posited by Michael J. Nolan of the relationship between nonverbal and verbal channels. This view holds that these two channels share the single function of conveying a message. Thus this author reasoned that it may be more accurate to think of each cue as influencing the other, that is, as each cue being interpreted in light of the other, rather than to think of one type of cue as always being dominant over the other. If this be the case, then the attributions that people would make about an incongruent message giver and his message would reflect at least an acknowledgement of both cues and most likely an attempt to reconcile the disparity between the cues. This attempt at reconciliation would be manifested as a unique attribution, that is, one that could not have been created from exposure to either cue alone, but one that reflected this particular combination of cues. Research in impression formation shows that people often deal with disparities in an individual's character traits in such a manner.

Thus it was expected that when subjects viewed a videotape in which the nonverbal and verbal cues were either congruent or incongruent, their ratings on bipolar scales and their free-form responses to questions would reflect their having taken both verbal and nonverbal cues into account. On the bipolar scales, this was expected to be manifested in ratings which indicated main effects

for both verbal and nonverbal cues and which also indicated that verbal and nonverbal cues accounted for approximately the same amount of variance. On the free-form written responses, this was expected to be manifested (in the responses to incongruent videotapes) by the subject's mentioning of material from both channels and by his attempts to explain the disparity between the channels.

In this chapter I will discuss the results of the present study which were reported in Chapter Four. First I will discuss the findings from the Assertive/Unassertive videotapes, and next the findings from the Cheerful/Depressed videotapes. Thirdly, some comparisons between the Assertive/Unassertive and Cheerful/Depressed videotapes will be made and discussed. The significance of the study will then be pointed out, along with some of the study's limitations. Finally, suggestions for future research will be presented.

The Assertive/Unassertive Videotapes

These results will be discussed in two parts--subjects' ratings of bipolar scales and subjects' free-form responses.

Bipolar Rating Scales

It was hypothesized that a two-way analysis of variance would show (A) significant main effects upon ratings for both verbal and nonverbal content, and (B) that the difference in the actual amount of variance accounted for by the verbal and nonverbal content would be rather small, e.g. less than or equal to three percentage points.

Effects of variations upon scales most relevant to assertiveness/unassertiveness. When taken as a group, the scales which were most relevant to the concept (assertiveness/unassertiveness) that was manipulated in the tapes, showed only partial support for the hypothesis. Over all, this group of scales was dominated by the verbal cues, though some of the scales were equally affected by verbal and nonverbal variations. The average percentage of variance accounted for by the verbal mode was 17.01%, while that accounted for by the nonverbal mode was 9.64%, a difference of 7.37 percentage points.

Effects of variations upon scales most relevant to cheerfulness/depression. When taken as a group, these five scales showed some support for the hypothesis. Three scales wholly supported the expectation and two scales partially supported it. On the two scales that showed only partial support for the hypothesis, there was some dominance by verbal cues. On the average, verbal cues accounted for 15.04% of the variance, while nonverbal cues accounted for 10.56%, a difference of 4.48 percentage points.

Effects of variations upon scales not directly relevant to either assertiveness/unassertiveness or cheerfulness/depression. Taken as a group, these scales did not support the hypothesis at all. Where significant main effects were found, the verbal mode substantially dominated the nonverbal mode. Over all the scales the average amount of variance accounted for by the verbal cues was 5.71%, while that accounted for by the nonverbal cues was 2.34%, and that accounted for by the interactions was 1.61%. The difference

between the verbal and nonverbal modes was 3.28 percentage points.

Summary of results obtained on the bipolar rating scales.

Slightly over one-half (nine) of the scales which showed significant effects fully or partially supported the hypothesis. In two of the cases in which scales partially supported the hypothesis, the scales were slightly dominated by the nonverbal mode, while in two they were dominated by the verbal mode. The scale, Unassertive - Assertive, which is the scale directly measuring the central concept manipulated in the videotapes, showed full support for the hypothesis. With only one exception (an interaction effect), all of the remaining seven scales were strongly dominated by the verbal mode. Over all sixteen scales which showed significant results, the average amount of variance accounted for by the verbal mode was 14.56%, while that accounted for by the nonverbal mode was 8.31%.

Thus, on the basis of these data, there is some justification for the view that people take into account both the verbal and the nonverbal modes when making attributions about a message and a message giver. However, there is also evidence that subjects may rely on one particular mode for information relating to one concept and on the other mode for information relating to another concept. Thus, while verbal cues dominated on seven scales, nonverbal and verbal cues were equally important on nine. In the assertive/unassertive videotapes, the mode that was relied on most often and most heavily was the verbal mode.

Free-Form Written Responses

Analysis was performed only on those responses obtained from

subjects who viewed tapes showing incongruence between verbal and nonverbal modes. Also, each subject's response to each of the three questions was categorized independently of his other two responses. It was hypothesized that the majority of responses would fall in the Mentions Material From Both Modes category, thereby showing that the subjects had attended to both the verbal and the nonverbal modes in every response. It was also expected that the majority of responses falling into this major category would fall into the subcategory, Attempts Explanation of Disparity, thereby showing that the subject had made some explanatory attributions which, of necessity, would be inferences that went beyond the actual data presented on the videotape.

The nonverbal unassertive/verbal assertive videotape. When the woman in the videotape acted unassertively but spoke in a manner that was assertive in content and syntax, the majority of responses showed reliance on both the verbal and the nonverbal modes. Furthermore, twenty of the twenty-six responses offered an explanation for the inconsistency between the two types of information. An example of a response which shows attempts to explain the disparity is:

"She was feeling very uneasy and nervous. She didn't want to hurt her roommate's feelings, but did want to get the point across. She wasn't sure how her roommate was going to respond and so she went very slowly and cautiously. I think she was really scared of ruining their friendship over such a trivial thing, but she felt really bad about the present situation. I think she really cared about her roommate."

Many of these responses revolved around the theme that the woman really did want to solve the problem with her roommate (material

from the verbal mode), but that she was very cautious and tactful about the way that she approached her roommate (material from the nonverbal mode) so as not to make her roommate angry with her (inference that links the disparity).

Although the majority of the responses showed reliance on both modes, a sizeable minority, nineteen out of forty-five, of the responses of those viewing the nonverbal unassertive/verbal assertive videotape did not mention both qualities, but totally ignored one quality in favor of the other. Of these responses, eleven mentioned only material from the verbal mode, while eight mentioned only material from the nonverbal mode. An example of a typical response which cited only verbal material is:

"She is trying to say she wants her rights respected. It is her room too, and she feels her right to sleep in that room is being infringed upon. She is tired of suffering in silence. She feels that they need to share the room equally, but that each other's rights must be respected."

An example of a typical response which relied solely on the nonverbal mode is:

"I feel she was very nervous, unsure of herself and very shy. She talked behind her hair as if she was trying to hide something from her roommate. She was unsure of herself because she did not know just exactly what to say to her roommate. I feel she was shy because of her tone of voice, etc."

Thus the data from the free-form responses to the nonverbal unassertive/verbal assertive videotape indicate that though the majority of responses did apparently rely on both modes, thereby lending support to the hypothesis, a substantial minority of these responses included only one mode. A slightly greater number of the responses in this latter case relied on the verbal

mode rather than the nonverbal mode.

Aposteriori findings from the free-form written responses to the nonverbal unassertive/verbal assertive videotape. In attempting to explain the above findings, let us examine the manner in which individuals' responses fell into categories.

Of fifteen subjects viewing this tape only three had all three of their responses fall into a single category. In these three cases each had all three of their responses fall into the category Mentions Material From Both Modes. Thus, when taking all three of each subject's responses into account, no subject exclusively relied on one mode or the other, though a single given response of a particular subject might rely exclusively on one mode. All subjects indicated that they had in some way taken both cues into account, though they did not necessarily place both cues in juxtaposition within a single response. This finding leads us to believe that the question itself, that is, that the type of attribution the subject is asked to make, may have some bearing on the manner in which the subject uses the cues presented to him.

A further examination of the pattern of categorization of subjects' responses sheds some light on this question. It shows that all except one of the eleven responses which fell into the Mentions Verbal Material Only subcategory are responses to question, "What was her message?" Also, all of the subjects who answered this question with only verbal material had of course answered the other two questions in a manner which indicated their cognizance of the nonverbal cues. This pattern of responses is congruent with

McMahan's (1976) finding that subjects relied on verbal cues chiefly when making message-relevant attributions.

In summary, an *aposteriori* examination of individual's response patterns indicated first, that when taking all three responses from each subject into consideration, no subjects relied exclusively on either the verbal or the nonverbal mode. This finding lent support to the idea that people do not often totally ignore one cue in favor of the other. Secondly, this examination indicated that all but one of the responses which fell into the Mentions Verbal Material Only subcategory were responses to the question, "What was her message?" The individuals who wrote these responses wrote responses to the other two questions that in some way acknowledged the nonverbal material. This finding was interpreted as being congruent with McMahan's finding that subjects respond to message-relevant questions with material acquired from the verbal mode. Thus the variation in subjects' responses cannot be solely attributed to individual differences in subjects, but may be related to the type of attributions the subject is asked to make.

The nonverbal assertive/verbal unassertive videotape. When the woman in the videotape acted assertively, but spoke in a manner that was unassertive in content and syntax, the majority of responses (65.3%) showed sole reliance on the verbal mode. There were no responses that relied solely on the nonverbal mode. An example of a typical response of the type showing sole reliance on the verbal mode is:

"She was feeling upset over many things, dealing with her roommate. The main (obvious) one being

that she wasn't able to get to sleep at night because sometimes her room-mate had her boyfriend in late. She was also feeling a little anxiety."

Many of these responses reiterated the problem situation and/or made note of the woman's hesitancy and unassertiveness.

Seventeen (34.7%) of the responses included some references to both cues. Most of these responses gave some explanation for the disparity between cues. An example of a typical response of this type is:

"The girl in the tape appeared on the outside to be upset with her roommate for keeping her awake and various other things connected with that. However, I think that underneath all of that she really didn't like her roommate at all. She was trying to find an easy way out of sharing a room with her roommate."

Many of these responses indicated that the girl was saying she was having certain problems with her roommate (verbal mode), but that she was acting more angry than would be warranted by such a problem (nonverbal mode), so actually she was angry with her roommate over other problems (inference linking the disparity). Apparently, the assertive nonverbal cues coupled with the unassertive language were perceived as indications of underlying hostility and anger.

Thus the data from the free-form responses to the nonverbal assertive/verbal unassertive videotape do not support the hypothesis. The majority of the responses included only material from the verbal mode. However, as 34.7% of the responses to this videotape did include material from both modes, there is some evidence for the assertion that people attend to both the verbal and nonverbal modes when making attributions.

Aposteriori findings from the free-form written responses to the nonverbal assertive/verbal unassertive videotape. In attempting to explain the above results, let us again examine the manner in which individuals' responses fell into categories.

Of the seventeen subjects viewing this tape, only six had all three of their responses fall into a single category. Of these six subjects, one had responses which all fell in the Mentions Material From Both Modes category, while the remaining five subjects' responses all fell into the Mentions Material From Verbal Mode Only subcategory. Therefore all subjects except these latter five did in some way acknowledge their cognizance of both sets of cues, though this acknowledgement may not have been contained within a single response. Again we must recognize that the variations in responses may not be due solely to individual differences in subjects, but may be related to the type of attributions the subject is asked to make.

A further investigation of subjects' responses however, did not yield any noticeable response patterns. In this case the responses falling in the Mentions Material From the Verbal Mode Only subcategory were about equally divided among the three stimulus questions. Thus McMahan's finding does not appear relevant here.

In summary, aposteriori investigations indicate that twelve of the seventeen subjects viewing the nonverbal assertive/verbal unassertive videotape did acknowledge both cues through some combination of their responses to the three stimulus questions. This finding lends support to the notion that people do not often totally ignore one cue in favor of the other. This finding also

implies that the type of attribution itself may influence the particular mode which the subject chooses to emphasize. However, further investigation of the responses led to no identifiable pattern which might support this assertion.

Summary of findings from the free-form written responses. The hypothesis, as originally framed was fully supported in the nonverbal unassertive/verbal assertive tape, but was not supported in the nonverbal assertive/verbal unassertive tape. Aposteriori investigations of the data showed that when the three responses written by each subject were taken into account, all of the subjects who saw the nonverbal unassertive/verbal assertive tape and 71.0% of those who saw the nonverbal assertive/verbal unassertive tape did show cognizance of both cues. Thus, the aposteriori findings do support the central assertion of this study.

In addition, the aposteriori investigation yielded, for subjects who viewed the nonverbal unassertive/verbal assertive tape, but not for subjects who viewed the nonverbal assertive/verbal unassertive tape, a pattern of responses congruent with McMahan's finding that subjects tend to rely more heavily on verbal cues when specifically asked to make attributions about the message itself.

Conclusions Drawn From the Ratings on the Bipolar Scales and the Free-Form Written Responses

Both types of measurements lent partial support to their respective hypotheses, while aposteriori investigations performed on the written responses fully supported the assertion that people

do not generally completely ignore one mode in favor of the other.

However, ratings on the bipolar scales also revealed that people may choose to strongly emphasize one mode over the other in response to a particular concept, as measured by a bipolar scale. In this set of tapes the mode chosen most often was the verbal mode. Also, the *a posteriori* investigation of the free-form written responses lent slight support to McMahan's finding that subjects tend to rely on the verbal cues when asked to make attributions about the message itself. Thus both measurements lent some credence to the notion that when one mode is dominant over the other, that dominance might be related to the type of attribution the subject is asked to make.

The Cheerful/Depressed Videotapes

These results will be discussed in two parts--subjects' ratings of bipolar scales, and subjects' free-form written responses.

Bipolar Rating Scales

It was hypothesized that a two-way analysis of variance would show (A) significant main effect upon ratings for both verbal and nonverbal content and (B) that the difference in the actual amount of variance accounted for by the verbal and nonverbal content would be rather small, e.g. less than or equal to three percentage points.

Effects of variations upon scales most relevant to cheerfulness/depression. When taken as a group, ratings on the scales which are most relevant to the concept (cheerfulness/depression) which was manipulated in the tapes, were influenced by a strong depression effect. That is, whenever there was evidence of depression, regardless of the mode in which it appeared, the woman in the videotape was perceived as depressed. Kanouse and Hanson (1972) report that the relatively stronger influence of any sort of a negative element as opposed to the influence of a positive element on impression formation is a quite common finding. In a summary of empirical findings they state that, "negative personality traits outweigh equally polarized positive traits in determining an overall evaluation of a stimulus person; that moral evaluations of a pair of acts depend primarily on the worst of the two; that subjects readily infer a negative orientation on the part of an actor toward an object on the basis of a negative orientation toward two of three attributes of the object, while they generally

do not infer a positive orientation on the basis of a positive orientation toward the same two attributes; and finally that people are, on the whole, cost oriented in risk taking."

Effects of variations upon scales most relevant to assertiveness/unassertiveness. The results from this group of scales were quite different from those found for the previous group. On these scales no evidence of a depression effect was found. As a group, these scales showed only partial support for the hypothesis. That is, three scales showed some evidence that subjects attended to both sets of cues, while three scales showed dominance by the nonverbal mode. Over all, the ratings on these scales were dominated by the nonverbal mode. The average amount of variance accounted for by the nonverbal mode was 15.78%, while that accounted for by the verbal mode was 5.29%, a difference of 10.49 percentage points.

Effects of variations upon scales not directly relevant to either cheerfulness/depression or assertiveness/unassertiveness. These scales appeared to be heavily dominated by the nonverbal content with only one scale showing a significant depression effect. Thus when taken as a group, the ratings on scales which are not directly relevant to either concept did not support the hypothesis. When discounting the four scales which showed no significant effects, the average amount of variance accounted for by the nonverbal cues was 9.07%, and that accounted for by the verbal cues was 0.99%, a difference of 8.08 percentage points. The amount of variance accounted for by the interactions was 2.68%.

Summary of ratings on all of the bipolar scales. Thus, on the basis of these data, there is little evidence that people take into account both modes when making attributions about a message and a message giver. Rather, it seemed that any evidence of depression, regardless of the mode in which it appeared, overshadowed information from the other mode. The depression effect was found almost exclusively on the scales most directly relevant to the concept, cheerful/depressed, which was manipulated on the tapes. The remainder of the scales that showed significant effects were dominated by the nonverbal cues.

In summary, the results of this set of bipolar ratings are characterized by two trends--the effect of depression, and nonverbal dominance. When discounting the five scales which showed no significant results, the average amount of variance accounted for by the nonverbal cues was 12.25%, that accounted for by the verbal cues was 8.82%, and that accounted for by the interactions was 3.77%.

Free- Form Written Responses

Analysis was performed only on those responses obtained from subjects who viewed tapes showing incongruence between verbal and nonverbal modes. Also, each subject's response to each of the three questions was categorized independently of his other two responses. It was hypothesized that the majority of responses would fall in the Mentions Material From Both Modes category, thereby showing that the subjects had attended to both the verbal and the nonverbal modes in every response. It was also expected that the majority of responses falling into this major category would fall

into the subcategory, Attempts Explanation of Disparity, thereby showing that the subject had made some explanatory attributions which, of necessity, would be inferences that went beyond the actual data presented on the videotape.

The nonverbal depressed/verbal cheerful videotape. When the woman acted depressed but said that she was cheerful, the overwhelming majority of responses (95.5%) took note of the discrepancy and made efforts to explain it. An example of a response which attempts to explain the disparity between modes is:

"I think she was really trying to say - 'tell me that they like me and I'm wanted.' She seemed to really lack self-confidence and be totally insecure about her own evaluations. She acted like she was really trying to convince herself that she did live in a wonderful situation and was indeed lucky."

The explanations that the subjects made for the woman's behavior were varied. Almost all however, in some way indicated that the woman had low self-confidence and either was incredulous that people could like her so much or was trying to convince herself that they really did like her. Almost all saw her as basically unhappy, yet did not ignore the verbal cues, but incorporated them into their explanations.

An example of a response that relied solely on the verbal mode is:

"Julie seems to be a nice girl, concerned with studying and doing well in school rather than partying. She does feel comfortable with those people on her floor even though they obviously have slightly different personalities. She considers them all her friends."

Thus we see that the data from the nonverbal depressed/verbal cheerful videotape indicate very strong support of the hypothesis.

It is also important to note that almost all responses portrayed the woman as basically unhappy, but did not ignore the verbal cues. Rather these cues were incorporated into the explanations that were made. Thus, the depression of the nonverbal cues did have great influence on subjects' attributions.

Aposteriori findings from the free-form written responses to the nonverbal depressed/verbal cheerful videotape. Closer examination of these responses showed that each of the subjects who wrote a response which mentioned only verbal material also wrote two other responses which mentioned both modes. Thus 100% of the subjects viewing this tape did in some way acknowledge the presence of both cues.

A speculation as to why nearly all of the responses did take note of the disparity between the modes and attempted an explanation of it, is that this particular combination of cues is a fairly common one. People often report that they have certain "socially acceptable" feelings and thoughts yet may not act in a manner congruent with their report. That is, their behavior indicates some "socially unacceptable" feeling. Perhaps the commonality of this occurrence makes it unusually easy for us to reconcile this type of disparity. It should also be noted that while subjects did basically see the woman as depressed, they did not ignore her verbal cues but incorporated them into their explanations.

The nonverbal cheerful/verbal depressed videotape. When the woman in the videotape acted in a cheerful manner, but said that

she was depressed, the majority of responses (62.5%) mentioned only material from the verbal mode. There were no responses that relied solely on the nonverbal mode. An example of a response showing sole reliance on the verbal mode is:

"She was feeling very down and depressed because she felt that her so-called friends were all against her. She doesn't like where she lives and she doesn't like the people she lives with. Just because she is interested in school and her studies she was looked down upon."

All of the responses in this category were mainly reiterations of what the woman had said. These responses made absolutely no mention of the woman's nonverbal cues.

Eighteen (37.5%) of the responses to this tape included some references to both modes and sixteen of these did attempt an explanation of the disparity. An example of a response that did attempt an explanation is:

"The person was either feeling very happy about the whole situation, or the whole situation has made her so apathetic that she was just trying to laugh it off. Or the whole thing has driven her completely crazy and she can't stop smiling or laughing. She could have been on drugs."

Some of the responses in this category seemed to indicate that the writer was actually rather puzzled by the woman's behavior. It seemed that the writer thought her behavior a bit peculiar and had a difficult time reconciling the disparity to account for that behavior. Other responses indicated that they felt the woman was lying.

Thus we see that the data from the nonverbal cheerful/verbal depressed videotape did not support the hypothesis as originally framed. The majority of responses totally ignored the nonverbal

mode in favor of the verbal mode.

Aposteriori findings from the free-form written responses to the nonverbal cheerful/verbal depressed videotape. An examination of the characteristics of subjects' response patterns showed that nine subjects had all three of their responses fall into a single category. Six of these subjects wrote all responses which mentioned only material from the verbal mode, and three subjects wrote all responses which mentioned material from both modes. Therefore, when all three responses were taken into account, ten out of the sixteen subjects viewing this tape did express some cognizance of the nonverbal cues, while six expressed only cognizance of the verbal cues. This finding offered slight support to the central assertion of this paper, that is, that people do not often totally ignore one mode in favor of the other.

Further examination of the response pattern did not show any support for McMahan's assertion that people will tend to use the verbal material when making attributions about a message.

In trying to explain the rather strong reliance on the verbal mode (that is, when responses were considered singly) in response to this tape, the content of the responses written by subjects who in some way acknowledged both cues was examined. Each response of the three subjects whose responses all mentioned both modes indicated that they were very puzzled about the discrepancy in the verbal and nonverbal behavior. In contrast, of the seven subjects whose responses did not fall into a single category, five (in their responses which acknowledged both cues) gave rather negative opinions of the woman. They said that they disliked her and that she was a

"fake". The remaining two of these seven subjects mentioned the nonverbal behavior very briefly and discounted it as nervousness or excitement, seeming to actually give most credence to her verbal cues.

Though the number of subjects is too small to draw any definite conclusions, it seemed as though the taped woman's behavior was seen as very strange. The three subjects who attempted to explain the disparity in all three responses seemed genuinely confused and puzzled, while most of the subjects who had only one or two responses explaining the disparity and one response relying on the verbal mode, had a very negative opinion of the woman. We can only speculate as to what was going on in the minds of the subjects who only reported verbal material.

Thus when subjects rather than responses are viewed as the unit of investigation, we find somewhat mixed results.

Summary of findings from the free-form written responses. The hypothesis, as originally framed, was fully supported in the nonverbal depressed/verbal cheerful tape, but was not supported in the nonverbal cheerful/verbal depressed tape. Aposteriori investigations of the data showed, however, that when the three responses written by each subject were taken into account, all of the subjects who saw the nonverbal depressed / verbal cheerful tape and 62.5% of those who saw the nonverbal cheerful/verbal depressed tape, did show cognizance of both cues. Thus while the hypothesis as originally framed was supported by the responses to only one tape, aposteriori investigations did indicate support for the central assertion of this study.

The aposteriori investigation did not yield any results which were supportive of McMahan's finding that subjects tend to rely more heavily on verbal cues when specifically asked to make attributions about the message itself.

Conclusions Drawn From the Ratings on the Bipolar Scales and the Free-Form Written Responses

The bipolar scale ratings showed two key characteristics--the depression effect (chiefly on those scales most directly related to cheerfulness/depression) and the dominance of nonverbal over verbal cues.

In some sense, the results from the written responses to the nonverbal depressed/verbal cheerful tape were congruent with these bipolar scale ratings, for there was definitely a depression effect, which in this particular case was carried by the depression in the nonverbal cues. It is essential to note, however, that though the subjects tended to see the woman as basically depressed they did not ignore the verbal cues, but incorporated them into their explanations.

The findings from the nonverbal cheerful/verbal depressed videotape free-form responses were a bit more complicated. It is possible that a depression effect was operating here, as the majority of the responses (when taken individually) and a slight majority of subjects (when all three responses were taken together) did give more credence to the woman's verbal cues, which carried the depression in this tape.

Viewing the Study as a Whole

Throughout this study, the assertive/unassertive videotapes and the cheerful/depressed videotapes have been discussed separately. In this part of the study findings from both tapes will be examined in light of each other.

Comparisons of the Assertive/Unassertive Videotapes with the Cheerful/Depressed Videotapes

Review of findings from each set of videotapes. The findings from both measurements taken on the assertive/unassertive tapes showed partial support for the hypotheses as originally framed. Aposteriori investigations performed on the written responses indicated full support of the hypothesis when subjects, not responses, were used as the unit of investigation. However, the bipolar scales also showed that when the modes did not assume equal weight, the verbal mode, not the nonverbal mode, was the dominant mode. Also, in the written responses, for one of the tapes, when responses, not subjects were used as the unit of investigation, the majority of responses mentioned only material from the verbal mode. Here, some slight evidence was found for McMahan's assertion that subjects use verbal material when making attributions about the message itself.

Overall, the findings from the assertive/unassertive tapes showed two major characteristics--evidence of equal weight of cues and verbal dominance over the nonverbal cues.

The findings from the bipolar scales in the cheerful/depressed

tapes did not support the hypothesis, but rather showed two major characteristics--a depression effect when depression was present in either mode, and the dominance of nonverbal over verbal cues. The results from the written responses to the nonverbal depressed/verbal cheerful tape did support the hypothesis, but closer inspection of their content showed that they were actually congruent with the bipolar scale ratings. These responses showed an overall depression effect, which was carried by the nonverbal cues. However, the verbal cues were not ignored, but were incorporated into explanations, as was expected. It is important to realize here that the depression effect noted in the bipolar scales does not, in all likelihood, denote the total ignoring of the verbal cues. Rather, perhaps the scales are not sufficiently refined to catch the distinction between total ignoring of the verbal cues and their incorporation into a basically negative explanation. The meaning of the written responses to the nonverbal cheerful/verbal depressed tape was not clear cut. It is possible that the results were due to a depression effect and were thus congruent with the bipolar scale ratings and the written responses to the nonverbal depressed/verbal cheerful tape. If these were the case, it should be noted that depression was stronger than nonverbal cues, as the depression was carried by the verbal cues in this tape.

Thus taken together, the findings from the two sets of videotapes are quite different. The assertive/unassertive tapes on the one hand, showed effects for equal weight of cues and verbal dominance, while the cheerful/depressed tapes, on the other hand, showed

depression effects and nonverbal dominance.

Discussion of findings from each set of tapes. When trying to make speculations about the differences in findings from the two sets of tapes, one distinction between the sets immediately comes to mind--that distinction being the explicitness or implicitness of the communication of the central concept being portrayed in the videotape. First we must note that we are concerned with the explicit-implicit distinction in the verbal mode only, as the nonverbal mode by nature conveys meaning implicitly except in the use of truly symbolic gestures. In the cheerful/depressed tapes the concept was portrayed explicitly by the woman saying, "I am cheerful," or "I am depressed." In the assertive/unassertive tapes the concept was portrayed implicitly, by the word choice and syntax of the woman's speech, not by her saying, "I am assertive," or "I am unassertive."

Thus in the assertive/unassertive tapes, where there was no explicit "lying" being done by the woman, subjects tended to either mesh the two cues to create a unified impression or to rely strongly on the verbal mode. The fact that there were no outright contradictions between the verbal and nonverbal modes perhaps made it easier for subjects to take the woman at her word and either dismiss or minimize her concurrent nonverbal behavior, seeing it as not really very important. These findings are in contrast to those of Argyle et al. (1971) all of whose actresses conveyed the concepts implicitly. Argyle found that subjects' attributions were strongly dominated by the nonverbal mode. We should note, however, two important differences between the stimuli in this study

and those of the Argyle study. First, this study (as the Bentz 1973 study) showed subjects a taped conversation between two people, while in Argyle's study, the actresses in the tapes spoke directly to the subjects. It is possible that this difference in stimuli influenced subjects' attributions, as the results of the present study were much closer to those of Bentz than to those of Argyle. Second, in Argyle's study, each subject watched two actors repeat the same three messages with three different nonverbal cues; in the present study, a subject watched only one verbal-nonverbal combination.

The cheerful/depressed tapes in contrast to the assertive/unassertive tapes, presented the subjects with quite a different picture. Here the woman was obviously contradicting herself. It is interesting to note that in the tape which presented the very common situation of a person saying, "things are great," but looking as if she had just lost her best friend, subjects quite easily and overwhelmingly believed the depressed nonverbal cues, however, they did not ignore the cheerful verbal cues, but incorporated them into their explanations. In the less familiar opposite situation, subjects exhibited either confusion or strict reliance on the verbal mode. When considering both of the incongruent cheerful/depressed tapes, there was some indication that when there was an explicit contradiction between modes, people believed the worst and that they believed it more strongly when it appeared in the nonverbal mode. When "the worst" appeared in the verbal mode, they had a harder time deciding which cues to rely on, but most frequently chose the verbal mode. In that case, subjects had a difficult time

reconciling the two modes. Perhaps this occurs because in this society, depression is a socially disvalued mood and people are expected to present themselves in as desirable a manner as possible. Therefore, any clue to an undesirable state is taken as definitive.

Therefore, when the concept was conveyed verbally by implicit means and contradicted nonverbally, subjects tended to either give equal credence to the cues or to take the woman at her word, thus minimizing her nonverbal behavior. However, when the concept was conveyed verbally by explicit means and contradicted nonverbally subjects tended to give greater credence to the negative material--most strongly when it appeared in the nonverbal mode, and somewhat more reluctantly when it appeared in the verbal mode.

Significance of the Study

The findings of this study indicated that when subjects viewed the assertive/unassertive videotapes, in which the central concept was communicated implicitly, they tended to either rely on both the verbal and the nonverbal modes together or to rely more heavily on the verbal mode. Contrarily, when subjects viewed the cheerful/depressed videotapes, in which the central concept was communicated explicitly, their attributions either tended to reflect a strong depression effect or were based on nonverbal cues.

Thus these findings did not support the findings of Argyle and Mehrabian as there was no indication of a generalized dominance of nonverbal over verbal cues. Although this study cannot offer definitive statements concerning which factors are relevant in determining subjects' choice of mode, there is some indication that the implicit-explicit distinction is perhaps such a factor. It is

also possible that whether the subject is a receiver of a message or whether he is an observer of an interaction is a relevant factor. Lastly, because in many cases a single subject relied on different modes for responses to different free-form questionnaires, there remains the possibility that the type of attribution the subject is asked to make affects his choice of mode.

The significance of this study lies in the fact that the findings help to re-open for investigation a line of questioning that has largely been accepted as authoritatively answered for several years. It brings into serious question the extensive use of Mehrabian's formula by numerous writers of basic communication texts. Hopefully this study will serve as the impetus for further study of the perceiver's use of the verbal and nonverbal modes in making attributions about others and their messages.

Limitations of the Study

This study is of course chiefly limited by the fact that it is only one study. More specifically, there are three major limitations which I will discuss briefly.

The first is the fact that only one actress was used. The use of multiple actors, of different sex would lend greater credibility to the findings. Then it could not be said that the findings depended on the idiosyncracies of one actor or on the sex of that actor.

The second limitation of the study was that it was conducted using a videotaped interaction. A study which employed a confederate and placed the subject in a situation where his attributions were

very important to him would yield findings that are perhaps more generalizable to everyday life.

The final limitation was that the number of subjects per cell was rather small. This lack was particularly bothersome when assessing the written responses. A larger number of subjects per cell would enhance the generalizability of the study.

Suggestions For Future Research

It seems as if very little research of this type has been done since the Argyle et al. (1971) study, thus allowing by default that study to be the last authoritative word on the subject. Therefore, more replications of this type of study are in order.

Three lines of manipulation that could be employed in these replications immediately stand out. The first, the explicit-implicit distinction, could be investigated to determine if there are generalizable differences between attributions made on the basis of implicit as opposed to explicit messages.

The second line of manipulation is the interactor-observer distinction. An investigation could determine if there are any differences between attributions made when the subject is spoken to directly by the person in the videotape as opposed to instances when he merely observes a conversation in a videotape. It would also be fruitful to substitute live confederates for these roles.

The third line of questioning which should be followed up is the role that the type of attribution the subject is asked to make plays in his choice of modes.

Conclusion

The purpose of this study was to examine the use that a perceiver makes of the verbal and nonverbal modes when making attributions about a person and his message when those modes are not congruent with each other.

It was found, contrary to the findings of Mehrabian and Argyle, that there was not a general dominance of nonverbal over verbal cues, but rather a varied pattern of mode use was noted. Several avenues for further investigation which may delineate the specific factors involved in the perceiver's choice of mode were suggested.

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APPENDIX A

SCRIPTS FOR ASSERTIVE/UNASSERTIVE VIDEOTAPES

SCRIPT WITH ASSERTIVE VERBAL CONTENT

Paula - Well, I guess this time, we're supposed to talk about some problem between the two of us. Well, I don't know --.

Julie* - Paula, I've got one that's been bothering me quite a bit. I'd like to bring it up now.

Paula - OK

Julie - Paula, I feel really irritated when your boyfriend stays in our room after 12:00 at night. I have early classes and like to go to bed around 11:30 or 12:00. I really do not feel comfortable getting into pajamas and getting in bed with a guy in the room. Even if I felt OK about that, I would still have a hard time getting to sleep since you two are talking and you leave the light on.

Paula - I didn't know we were disturbing you so much, Julie.

Julie - I know that this has only happened twice, but I really got upset about it since I need my sleep. I want to make sure that it doesn't happen again. I'm willing to plan to be out of the room earlier in the evening so you and Brad can be alone--if you'll make sure that he's gone by about 11:15 so that I can get ready for bed.

Paula - You've got a deal, Julie.

*Julie is the woman about whom subjects were asked to make attributions.

SCRIPT WITH UNASSERTIVE VERBAL CONTENT

- Paula - Well, I guess this time we're supposed to talk about some problem between the two of us. Well, I don't know --.
- Julie* - Well, uh, Paula, uh, there's something that's been a little bit bothersome---
- Paula - Yes (said like "go on")
- Julie - Well, in fact, it's pretty bothersome- Oh I don't mean real bad,--just a little bit irritating. Maybe I'm just real sensitive or something - but - well, maybe I shouldn't even bring it up? Is it OK with you if I do?
- Paula - Julie, if it's that bad, go ahead! (exasperated)
- Julie - Well, it's kind of annoying when I have to stay up after 12:00. You know with early classes and all- I'm just tired all day- like I'd really like to be able to go to bed around 11:30 or 12:00.
- Paula - Well, you can go to bed whenever you want!
- Julie - Well, it's a little embarrassing to get your pajamas on and get in bed when there's your boyfriend up there in the room. Maybe I'm just too modest or something--
- Paula - So he can go in the hall until you pull the blanket over your head.
- Julie - Yeah, well that might be OK,---but it's hard to sleep when there's noise in the room.
- Paula - So, we'll whisper.
- Julie - Yeah, well, you know the light's kind of a little problem too. I mean, Paula, I know that Brad's only stayed late about twice-but- well- Oh, I shouldn't have brought it up---I mean, gosh, I've just made you mad. I'm sorry, Paula. Can we just forget this whole thing ever happened?
- Paula - I'd sure like to!

*Julie is the woman about whom subjects were asked to make attributions.

NONVERBAL BEHAVIORS
FROM YOUR PERFECT RIGHT

Assertive Behaviors

Eye contact: Look directly at the other person.

Body posture: Face the person, stand or sit appropriately close to him, lean toward him, hold your head erect.

Gestures: Accent what you say with appropriate gestures.

Facial Expression: Don't smile sheepishly.

Voice tone, inflection, volume: Use a well-modulated conversational tone. Do not whisper or shout.

Unassertive Behaviors

The opposites of these assertive behaviors were used.

APPENDIX B

SCRIPTS FOR CHEERFUL/DEPRESSED VIDEOTAPES

SCRIPT WITH CHEERFUL VERBAL CONTENT

- Julie* - Uh, I don't really know what we're supposed to do exactly.
- Paula - Well, she said we're just supposed to talk about things that concern both of us.
- Julie - You think she meant just stuff about things that are happening to us and all?
- Paula - Yeah, I guess that's it. Look, why don't you go first and then I'll talk when we run out of stuff to say about what you bring up.
- Julie - OK, well let's see--I guess I can talk about our floor in the dorm. I feel really good that I got on that floor. I even enjoy coming in from class because I stop in everybody's room and say 'Hello' and we talk for a few minutes.
- Paula - Yeah, I know what you mean.
- Julie - You know, I really feel a part of the group up there. I feel like people up there really care about me. Even though a lot of them like to party quite a bit during the week, they all seem to respect me for wanting to study and for caring about school. And everytime I ask somebody to turn down their stereo, they do it right then. And they don't act snotty about either. That sure makes it pleasant around there.
- Paula - Julie, I know everybody up there likes you--I've picked up remarks here and there.
- Julie - Yeah, I guess even I can fit in around here. It really makes me feel cheery for people to care about me like they do. I mean they really respect me for who I am, though I'm different from them in some ways. I wonder if it'd be this good in another dorm? Or am I just lucky? That living situation makes me feel really good inside.

*Julie is the woman about whom subjects were asked to make attributions.

SCRIPT WITH DEPRESSED VERBAL CONTENT

Julie* - Uh, I don't really know what we're supposed to do exactly.

Paula - Well, she said we're just supposed to talk about things that concern both of us.

Julie - You think she meant just stuff about things that are happening to us and all?

Paula - Yeah, I guess that's it. Look, why don't you go first and then I'll talk when we run out of stuff to say about what you bring up.

Julie - OK, well let's see-- I guess I can talk about our floor in the dorm. You know, I sure feel down about it. It's getting so I hate to walk down the hall anymore. I mean I can literally hear the doors slam in my face.

Paula - What do you mean?

Julie - You know I'm really an outsider up there. Everybody talks about me behind my back- they think I'm a creep because I like to study and care about school instead of going out and getting drunk every night like they do. And everytime I ask somebody to turn down their stereo, they either just turn it up louder or just say they'll turn it down and then when I walk out of the room I can hear them all laughing. Boy--that sure gets me down in the dumps.

Paula - Julie, I've known that this has been happening--I've picked up a few remarks and I've tried to stick up for you-- but what can I really do?

Julie - Yeah, I guess I just don't fit in around here--but it makes me feel so depressed for people to get down on me like that all the time. Seems like they could just live and let live. I've thought about transferring to another dorm, but I really don't think it would matter. It'd probably just be the same old thing. This whole thing has got me so down.

*Julie is the woman about whom subjects were asked to make attributions.

APPENDIX C

DIRECTIONS, INFORMED CONSENT STATEMENT, AND COVER STORY

DIRECTIONS GIVEN TO SUBJECTS

The following instructions were given to subjects after they had viewed the videotape:

- (1) Fill out the demographic data form, writing your sex, age, and major.
- (2) You will write three free-form answers to the three questions in this packet. Each question will take you five minutes. Please answer the questions in the order in which they are stapled together. Please do not flip through the questions.

You are to answer these questions about the person the camera focused on the most.

- (3) I will go over each question now. (Each question was read to the subjects.)
- (4) You will have 5 minutes to write each answer. I will tell you when to start and when to stop each time. Keep writing until I tell you to stop.

The following instructions were given to subjects after they had completed all three of their free-form responses:

- (1) You will now fill out 3 bipolar rating scales. Put the X in the blank which accurately depicts what you want to say. Please fill these out in the order in which they are stapled and do not flip through your packet. Work at your own speed.
- (2) I will go over each question now. (Each question was read to the subjects.)

CONSENT STATEMENT

The Department of Speech and Drama feels that persons should participate as experimental subjects only if they choose to do so. Therefore, we wish to inform you that you may withdraw from this experiment at any point. You will in no way be penalized for withdrawing.

In this particular study, you will be asked to view some videotapes of conversations and then to judge those conversations on some rating scales. You are not to put your names on the questionnaires. Your names will in no way be associated with the results of this study. You will be debriefed as to the nature of this study.

We encourage your participation in this study, but fully respect your right to choose not to participate.

Thank you.

Anna S. Broome

Principal Investigator

COVER STORY

You are participating in the second part of a two part study. We want you to help us out by judging tapes that we made in the first part of this study. These videotapes are of pairs of roomates who were subjects here and who as part of their participation were instructed to talk about various aspects of "being roomates." Your job is to view one videotape and then read a transcript of a tape of another set of roomates. After you've viewed the tape, I will ask you to judge it by filling out some rating scales and forms. I will ask you to fill out some ratings scales after you've read the transcript. Please pay close attention to the videotape from the very beginning as it is rather short.

Thank you.

APPENDIX D
DEBRIEFING PROCEDURE

DEBRIEFING OF SUBJECTS

This study is concerned with the way people perceive nonverbal and verbal cues. Particularly, I am interested in what people perceive when the verbal cues are discrepant with the nonverbal ones. Some researchers have said that we always attend to the nonverbal cues when they are not congruent with the verbal cues. My hypothesis, however, is that we attend to both the verbal and the nonverbal cues, understanding each in the light of the other.

The people in the videotape were actors reading a prepared script and were not actually roommates.

Thank you for judging the tapes and for helping me out. If you have any questions, I'll be happy to answer them. If you have any criticisms of the study or any suggestions for ways of improving it, I will be happy to hear them.

Please do not discuss this study with anyone as doing so could seriously damage the validity of my data.

Thank you very much.

APPENDIX E

BIPOLAR RATING SCALES

What was the person in the videotape feeling at the time of her conversation with her roommate?

Not Friendly	_____	Friendly
Included	_____	Lonely
Hopeful	_____	Despairing
Frightened	_____	Not Frightened
Nervous	_____	Relaxed
Composed	_____	Upset
Embarrassed	_____	Not Embarrassed
Cheerful	_____	Depressed
Calm	_____	Excited
Distressed	_____	Pleased

What is your impression of the person you saw in the videotape?

Self-Depreciative _____ Self-Confident

Trusting _____ Untrusting

Self-Controlled _____ Agitated

Unassertive _____ Assertive

Nonexcitable _____ Emotional

Timid _____ Bold

Decisive _____ Indecisive

Sincere _____ Insincere

Unstable _____ Stable

Confused _____ Certain

APPENDIX F

FREE-FORM RESPONSE QUESTIONNAIRES

Imagine that you were explaining to a close friend what the person in the videotape was "really trying to get across" to her roommate, that is, what her message was. Write in the space below what you would tell your friend. Take a few minutes. Please continue writing until I tell you to stop.

Imagine that you were explaining to a close friend how the person in the videotape was feeling at the time of her conversation with her roommate. Write in the space below what you would tell your friend. Take a few minutes. Keep writing until I tell you to stop.

We would like to know your impression of the person in the video-tape. Imagine that a close friend of yours wants to know your impression of this person and you want to give your friend as much information as possible. Write in the space below what you would tell your friend. Take a few minutes. I will tell you when to stop. Please continue writing until I tell you to stop.

APPENDIX G

SUMMARY TABLES FOR ANALYSES OF VARIANCE

ASSERTIVE/UNASSERTIVE VIDEOTAPES

TABLE 23

ANALYSIS OF VARIANCE FOR THE SCALE UNASSERTIVE - ASSERTIVE
ASSERTIVE/UNASSERTIVE CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	24.67	11.42	.01
Verbal	1	25.94	12.01	.001
NV X V	1	0.25	0.11	ns

TABLE 24

ANALYSIS OF VARIANCE FOR THE SCALE TIMID - BOLD
ASSERTIVE/UNASSERTIVE CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	32.26	14.35	.001
Verbal	1	21.59	9.61	.01
NV X V	1	0.13	0.06	ns

TABLE 25

ANALYSIS OF VARIANCE FOR THE SCALE DECISIVE - INDECISIVE
ASSERTIVE/UNASSERTIVE CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	2.62	1.28	ns
Verbal	1	37.71	18.46	.001
NV X V	1	1.11	0.54	ns

TABLE 26

ANALYSIS OF VARIANCE FOR THE SCALE FRIGHTENED - NOT FRIGHTENED
ASSERTIVE/UNASSERTIVE CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	33.30	18.75	.001
Verbal	1	32.58	18.35	.001
NV X V	1	3.41	1.92	ns

TABLE 27

ANALYSIS OF VARIANCE FOR THE SCALE SELF-DEPRECIATIVE - SELF-CONFIDENT
ASSERTIVE/UNASSERTIVE CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	18.82	8.74	.01
Verbal	1	31.61	14.70	.001
NV X V	1	0.08	0.04	ns

TABLE 28

ANALYSIS OF VARIANCE FOR THE SCALE CONFUSED - CERTAIN
ASSERTIVE/UNASSERTIVE CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	6.80	2.75	ns
Verbal	1	39.27	15.91	.001
NV X V	1	5.99	2.43	ns

TABLE 29ANALYSIS OF VARIANCE FOR THE SCALE EMBARRASSED - NOT EMBARRASSED
ASSERTIVE/UNASSERTIVE CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	9.29	3.25	ns
Verbal	1	20.69	7.24	.01
NV X V	1	4.86	1.70	ns

TABLE 30ANALYSIS OF VARIANCE FOR THE SCALE CHEERFUL - DEPRESSED
ASSERTIVE/UNASSERTIVE CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	7.63	4.79	.05
Verbal	1	8.57	5.39	.05
NV X V	1	0.40	0.25	ns

TABLE 31ANALYSIS OF VARIANCE FOR THE SCALE DISTRESSED - PLEASED
ASSERTIVE/UNASSERTIVE CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	14.88	9.34	.01
Verbal	1	16.47	10.35	.01
NV X V	1	0.01	0.00	ns

TABLE 32ANALYSIS OF VARIANCE FOR THE SCALE HOPEFUL - DESPAIRING
ASSERTIVE/UNASSERTIVE CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	10.74	5.02	.05
Verbal	1	69.87	32.69	.001
NV X V	1	2.60	1.22	ns

TABLE 33ANALYSIS OF VARIANCE FOR THE SCALE INCLUDED - LONELY
ASSERTIVE/UNASSERTIVE CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	24.46	18.61	.001
Verbal	1	19.47	14.81	.001
NV X V	1	0.25	0.19	ns

TABLE 34ANALYSIS OF VARIANCE FOR THE SCALE COMPOSED - UPSET
ASSERTIVE/UNASSERTIVE CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	18.21	7.09	.01
Verbal	1	21.35	8.31	.01
NV X V	1	4.05	1.58	ns

TABLE 35

ANALYSIS OF VARIANCE FOR THE SCALE UNSTABLE -STABLE
ASSERTIVE/UNASSERTIVE CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	5.65	2.35	ns
Verbal	1	28.71	11.93	.001
NV X V	1	9.02	3.75	ns

TABLE 36

ANALYSIS OF VARIANCE FOR THE SCALE NERVOUS - RELAXED
ASSERTIVE/UNASSERTIVE CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	6.11	2.65	ns
Verbal	1	13.03	5.65	.05
NV X V	1	1.48	0.64	ns

TABLE 37

ANALYSIS OF VARIANCE FOR THE SCALE NONEXCITABLE - EMOTIONAL
ASSERTIVE/UNASSERTIVE CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	0.09	0.05	ns
Verbal	1	8.80	4.67	.05
NV X V	1	0.00	0.00	ns

TABLE 38ANALYSIS OF VARIANCE FOR THE SCALE SINCERE - INSINCERE
ASSERTIVE/UNASSERTIVE CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	5.75	3.71	ns
Verbal	1	5.12	3.30	ns
NV X V	1	8.47	5.46	.05

TABLE 39ANALYSIS OF VARIANCE FOR THE SCALE NOT FRIENDLY - FRIENDLY
ASSERTIVE/UNASSERTIVE CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	0.17	0.05	ns
Verbal	1	1.66	0.53	ns
NV X V	1	0.00	0.00	ns

TABLE 40ANALYSIS OF VARIANCE FOR THE SCALE TRUSTING - UNTRUSTING
ASSERTIVE/UNASSERTIVE CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	1.46	0.78	ns
Verbal	1	1.33	0.71	ns
NV X V	1	1.01	0.53	ns

TABLE 41ANALYSIS OF VARIANCE FOR THE SCALE SELF-CONTROLLED - AGITATED
ASSERTIVE/UNASSERTIVE CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	4.10	1.70	ns
Verbal	1	5.21	2.15	ns
NV X V	1	6.21	2.57	ns

TABLE 42ANALYSIS OF VARIANCE FOR THE SCALE CALM - EXCITED
ASSERTIVE/UNASSERTIVE CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	4.46	1.87	ns
Verbal	1	0.51	0.21	ns
NV X V	1	0.04	0.02	ns

APPENDIX H

SUMMARY TABLES FOR ANALYSES OF VARIANCE

CHEERFUL/DEPRESSED VIDEOTAPES

TABLE 43ANALYSIS OF VARIANCE FOR THE SCALE CHEERFUL - DEPRESSED
CHEERFUL/DEPRESSED CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	61.08	23.92	.001
Verbal	1	56.30	22.05	.001
NV X V	1	16.93	6.63	.01

TABLE 44ANALYSIS OF VARIANCE FOR THE SCALE DISTRESSED - PLEASED
CHEERFUL/DEPRESSED CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	34.01	13.91	.001
Verbal	1	57.98	23.71	.001
NV X V	1	30.66	12.54	.001

TABLE 45ANALYSIS OF VARIANCE FOR THE SCALE HOPEFUL - DESPAIRING
CHEERFUL/DEPRESSED CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	16.64	4.74	.05
Verbal	1	33.60	9.57	.01
NV X V	1	14.02	3.99	.05

TABLE 46ANALYSIS OF VARIANCE FOR THE SCALE INCLUDED - LONELY
CHEERFUL/DEPRESSED CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	22.41	7.28	.01
Verbal	1	97.63	31.71	.001
NV X V	1	36.80	11.95	.001

TABLE 47ANALYSIS OF VARIANCE FOR THE SCALE COMPOSED - UPSET
CHEERFUL/DEPRESSED CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	9.42	3.64	ns
Verbal	1	31.36	12.13	.001
NV X V	1	7.45	2.88	ns

TABLE 48ANALYSIS OF VARIANCE FOR THE SCALE UNASSERTIVE - ASSERTIVE
CHEERFUL/DEPRESSED CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	38.35	14.47	.001
Verbal	1	13.70	5.17	.05
NV X V	1	0.86	0.32	ns

TABLE 49

ANALYSIS OF VARIANCE FOR THE SCALE TIMID - BOLD
CHEERFUL/DEPRESSED CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	25.08	10.94	.01
Verbal	1	0.07	0.03	ns
NV X V	1	0.30	0.13	ns

TABLE 50

ANALYSIS OF VARIANCE FOR THE SCALE DECISIVE - INDECISIVE
CHEERFUL/DEPRESSED CONDITIONS

<u>Source</u>	DF	MS	F	P
Nonverbal	1	44.41	17.88	.001
Verbal	1	0.09	0.04	ns
NV X V	1	4.49	1.81	ns

TABLE 51

ANALYSIS OF VARIANCE FOR THE SCALE FRIGHTENED - NOT FRIGHTENED
CHEERFUL/DEPRESSED CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	14.76	6.87	.01
Verbal	1	35.12	16.35	.001
NV X V	1	0.83	0.39	ns

TABLE 52ANALYSIS OF VARIANCE FOR THE SCALE SELF-DEPRECIATIVE - SELF-CONFIDENT
CHEERFUL/DEPRESSED CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	59.55	24.92	.001
Verbal	1	3.92	1.64	ns
NV X V	1	2.07	0.87	ns

TABLE 53ANALYSIS OF VARIANCE FOR THE SCALE CONFUSED - CERTAIN
CHEERFUL/DEPRESSED CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	23.90	8.99	.01
Verbal	1	20.22	7.61	.01
NV X V	1	2.66	1.00	ns

TABLE 54ANALYSIS OF VARIANCE FOR THE SCALE EMBARRASSED - NOT EMBARRASSED
CHEERFUL/DEPRESSED CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	0.20	0.07	ns
Verbal	1	5.76	2.04	ns
NV X V	1	0.14	0.05	ns

TABLE 55ANALYSIS OF VARIANCE FOR THE SCALE UNSTABLE - STABLE
CHEERFUL/DEPRESSED CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	19.60	7.35	.01
Verbal	1	2.99	1.12	ns
NV X V	1	0.22	0.08	ns

TABLE 56ANALYSIS OF VARIANCE FOR THE SCALE NERVOUS - RELAXED
CHEERFUL/DEPRESSED CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	5.43	2.40	ns
Verbal	1	5.29	2.34	ns
NV X V	1	9.19	4.07	.05

TABLE 57ANALYSIS OF VARIANCE FOR THE SCALE NONEXCITABLE- EMOTIONAL
CHEERFUL/DEPRESSED CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	0.33	0.17	ns
Verbal	1	0.55	0.28	ns
NV X V	1	0.61	0.31	ns

TABLE 58

ANALYSIS OF VARIANCE FOR THE SCALE SINCERE - INSINCERE
CHEERFUL/DEPRESSED CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	0.35	0.08	ns
Verbal	1	3.46	0.75	ns
NV X V	1	12.85	2.79	ns

TABLE 59

ANALYSIS OF VARIANCE FOR THE SCALE NOT FRIENDLY - FRIENDLY
CHEERFUL/DEPRESSED CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	17.24	7.09	0.01
Verbal	1	0.90	0.37	ns
NV X V	1	9.88	4.07	ns

TABLE 60

ANALYSIS OF VARIANCE FOR THE SCALE TRUSTING - UNTRUSTING
CHEERFUL/DEPRESSED CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	1.96	0.58	ns
Verbal	1	0.01	0.004	ns
NV X V	1	1.62	0.48	ns

TABLE 61

ANALYSIS OF VARIANCE FOR THE SCALE SELF-CONTROLLED - AGITATED
CHEERFUL/DEPRESSED CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	22.10	6.92	.01
Verbal	1	0.79	0.25	ns
NV X V	1	3.30	1.03	ns

TABLE 62

ANALYSIS OF VARIANCE FOR THE SCALE CALM - EXCITED
CHEERFUL/DEPRESSED CONDITIONS

Source	DF	MS	F	P
Nonverbal	1	3.06	1.73	ns
Verbal	1	0.01	0.01	ns
NV X V	1	6.00	3.39	ns